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A HITHERTO UNDESCRIBED CONDITION OF THE TONGUE

CLINICAL AND HISTOLOGIC REPORT OF TWO CASES

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NEW YORK

During the past winter two patients consulted us for an affection of the tongue which had not previously come under our observation. We have been unable to find a reference in medical literature to a similar condition nor have several of our dermatologic and surgical colleagues to whom these cases or illustrations have been shown seen such a case. It may, therefore, be looked on for the time at least as an undescribed growth of the tongue. The two patients gave a history of a previous syphilitic infection. In one of them the history of such an infection was doubtful; in the other, quite definite. Intensive treatment in the latter in no way affected the tongue lesions. Both patients when they consulted us had negative Wassermann reactions with both antigens employed in our laboratory, and they presented no clinical signs or symptoms of syphilis.

REPORT OF CASES

CASE 1.—*History.*—Mr. T. H., aged 56, had a negative family history. He was married in 1909. His wife and one daughter, aged 12, were well. There had been no miscarriages. He had had a chancre in 1903, followed in a few weeks by a generalized rash. He was given mercury and iodids for two years after the initial lesion. Since June, 1921, he had had slight dyspnea accompanied by a dull precordial pain on exertion. About June, 1922, the patient experienced an indefinite sensation over the dorsum of the tongue, and on investigation found there a compact growth, while on the hard palate a few wart-like lesions varying from the size of a pin's head to that of a small pea were felt. There was neither pain nor sensitiveness. He consulted a physician who advised a Wassermann test, which was reported positive. He was therefore given about twelve injections of arsphenamin and two of mercury. Treatment had had no effect on the tongue, which had not changed either in character or in size since he was first observed.

Examination.—When seen on Jan. 9, 1923, a general physical examination was negative, except for a slight hypertrophy of the heart, with an occasional extrasystole; the blood pressure was: systolic, 144; diastolic, 110. The neuro-

logic examination and Wassermann reaction of the blood were negative. Extending along the median line of the dorsum of the tongue was a linear growth, 3.5 cm. long by 1.25 cm. wide (Fig. 1). It was sharply defined, somewhat pointed in the front, and broadened to a wedge shape at the back, where it fused gradually with the surrounding papillae. The lesion, which was a deeper vermilion than the tongue, was elevated, verrucous, and lobulated, the lobes being nodule-like and separated by fairly deep fissures. When the tongue was relaxed the growth could be picked up between the fingers and moved from

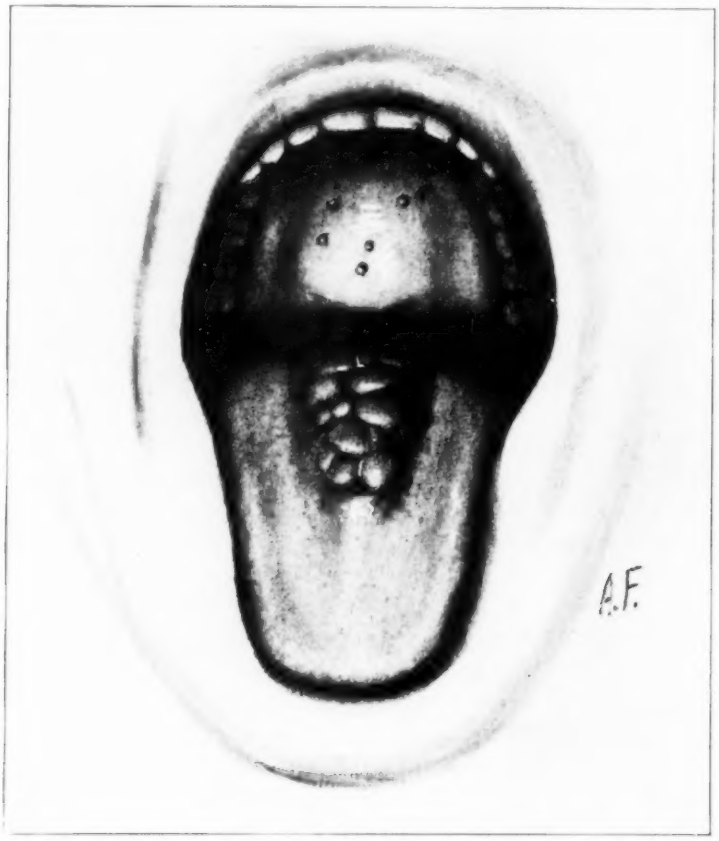

Fig. 1 (Case 1).—Growth on dorsum of tongue and wart-like lesions on hard palate.

side to side; the sclerotic tissue surrounding the base of the lobes had the firmness of leather, while the lobes themselves had the consistency of soft rubber.

Treatment and Course.—The lesion was removed by means of electrodesiccation on Feb. 20, 1923. The needle was forced with difficulty through the growth, and a lessened resistance was easily transmitted to the hand of the operator when the normal tongue was reached. The tissue, which was desiccated and softened by the current, was thoroughly curetted, and the base of the wound again fulgurated and cauterized with the galvanocautery.

Fig. 2 (Case 2).—Nodular growth on tongue.

The patient recovered rapidly and when last seen on April 26 his wound had completely healed, with a perceptible depression at the site of the operation, and presented no evidence of any recurrence of the condition.

Case 2.—*History.*—Mr. S. F., aged 38, whose father died at the age of 65 from heart failure, also had a cancer. His maternal grandmother and

Fig. 3 (Case 2).—Irregular epithelial hyperplasia, dilated vessels and distribution of cellular infiltration in lesion on tongue. Low power magnification.

maternal aunt died of cancer. He was married in 1917. His wife had never been pregnant. The patient had had a chancre on the glans penis in 1915, followed a few weeks later by an ulcerating inguinal lymph node; there had been no secondary manifestations. He had had gonorrhea in 1918. He had received six injections of arsphenamin and mercury by mouth for one year; he had been

perfectly well ever since. One year before his tonsils had been removed by a nose and throat specialist, who called his attention to an unusual condition of the dorsum of the tongue. The patient was positive that no change in size or appearance of the growth had taken place since it was first noticed. When first seen on April 4, 1923, physical and neurologic examinations were negative; the blood pressure was: systolic, 140, diastolic, 90. The blood Wassermann test was negative. An examination of the tongue showed a growth (Fig. 2) almost identical with that described in Case 1. The size was 3 cm. by 1.5 cm.

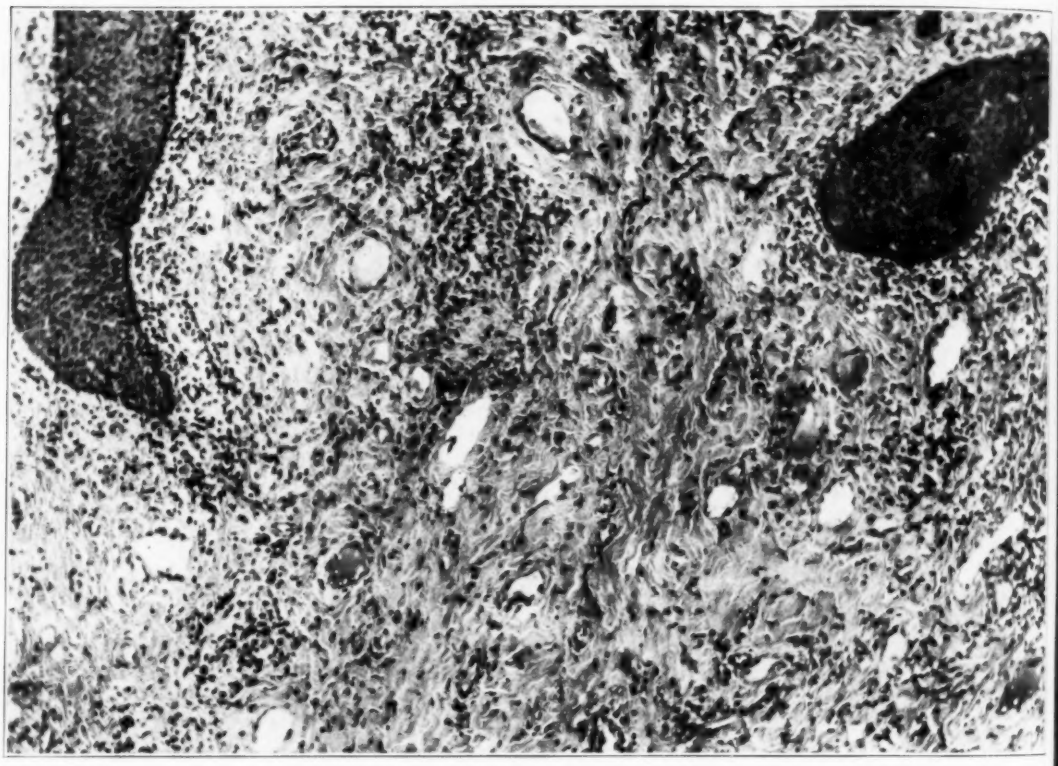

Fig. 4.—Sclerosis of the connective tissue, dilatation of blood and lymph vessels and cellular infiltration consisting chiefly of lymphocytes and plasma cells extending from the epithelium to the muscular tissue. High power magnification.

The patient was advised to have the growth removed by electrodesiccation. He has promised to return for this procedure.

Histology.—Under low power magnification (Fig. 3) the striking features were the irregular thickening of the epithelial covering and the elongated rete pegs, many of them extending almost to the muscle fibers. The blood vessels of the papillary bodies were moderately dilated, while those of the deeper tissues were markedly so. The lymphatic vessels were also dilated, a cellular infiltration consisting chiefly of lymphocytes and plasma cells extending from the acanthotic epithelium to the muscular tissue. In the deeper tissues a peri-

vascular site was evident. In some of the sections the cellular infiltration was in close opposition to the down-growing epithelium and filled the papillary bodies. Under high power magnification (Fig. 4), wandering leukocytes and interstitial edema were demonstrable in the hyperplastic epithelium, resulting in small vesicles in isolated areas. In places in which the edema was most pronounced there was some disorganization of the basal layer, although the greater part of it was intact. One or two groups of epithelial cells were found, apparently unconnected with the acanthotic pegs, which suggested a possible beginning epithelioma. With this exception, no evidence of epithelioma was found. In addition to the acanthosis and the cellular infiltration, there was marked sclerosis of the connective tissue, which extended from the subepithelial tissues and between the muscle fibers.

CONCLUSIONS

It is evident that this was a chronic inflammatory process resulting in sclerosis of the connective tissue structure of the tongue. The epithelial hyperplasia was probably the result of the underlying inflammation. A somewhat analogous condition was reported by one of us under the title of hypertrophic lichen planus,[1] in which grouped nodules were present about the genitals and lower extremity, giving rise to a clinical picture not unlike the tongue lesions shown in the illustration. The histology in the former case showed also a striking similarity to the tongue lesions, as in both epithelial hyperplasia was associated with connective tissue sclerosis. The existence of small wart-like lesions over the hard palate in one of our cases suggested a possible autoinoculation. In the case of so-called hypertrophic lichen planus, to which reference has been made, lesions were present on the under surface of the penis and over the scrotum where there was surface contact. The previous syphilitic infection in the tongue cases may or may not have been a predisposing factor.

We occasionally find hypertrophic nodules after the involution of syphilitic lesions of the skin which are analogous to hypertrophic scars or keloids, and which are uninfluenced by antisyphilitic treatment. In neither of the cases reported had there been any antecedent lesion suggesting syphilis, nor were there noted on the tongue any scars, leukoplakia or other usual syphilitic stigmas.

1. J. Cutan. & Genito.-Urin. Dis., February, 1897.

THE ETIOLOGY OF PAPULONECROTIC TUBERCULID *

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By presentation of certain facts developed in the study of two cases of papulonecrotic tuberculid, together with some corroborative evidence foreign to the case reports, I propose to support a theory antagonistic to tuberculosis as the etiology of this dermatosis in all instances. Striking similarity of gross pathology in these two cases forms the basis for my thesis.

ATTITUDE OF AUTHORS REGARDING THE ETIOLOGY OF TUBERCULID

It is interesting to review the literature on this subject, contrasting views of different authors bearing on the question of etiology. Except in recognition of the dermatosis, there seems to be nothing on which we can agree. In the table, which was prepared by Dr. Lester Hollander, an attempt is made to show the association of papulonecrotic tuberculid with tuberculosis through case study, either by hereditary predisposition, a positive tuberculous family history or demonstration of tuberculosis in the patient studied, and also to give the authors' personal views on the subject. These are selected instances in which the authors apparently paid special attention to this phase of the subject.

The table shows that out of a total of forty-two cases analyzed for tuberculous association twenty-four were considered positive by virtue of definite family history or tuberculosis in the patient, although actual tuberculosis in the patient himself was found in only eleven of the cases studied.

MacLeod and Ormsby,[1] Leiner and Spieler,[2] Whitfield,[3] Gougerot and Laroche [4] have reported finding tubercle bacilli in lesions of papulonecrotic tuberculid both by animal inoculation and study of slides. Rist

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* Read at the Forty-Sixth Annual Meeting of the American Dermatological Association, Ann Arbor, Mich., June 7-9, 1923.

1. MacLeod and Ormsby: Brit. J. Dermat. **13**:367, 1901.

2. Leiner and Spieler: Wien. med. Wchnschr. **59**:1041, 1909.

3. Whitfield, quoted by Ormsby: Diseases of the Skin, Ed. 2, Philadelphia, Lea & Febiger, 1921, p. 692.

4. Gougerot and Laroche: Arch. de méd. Exper. et d'Anatomic Pathologique, Sept., 1908, No. 5, p. 581.

and Rolland [5] showed that in animals suffering from tuberculosis tubercle bacilli introduced from without were rapidly destroyed by some substances present in the tissues. Lewandowsky [6] produced lesions resembling tuberculids by injections of tubercle bacilli into tuberculous animals, and he agreed with Rist and Rolland that tuberculids

Etiology of the Papulonecrotic Tuberculid

Author	No. of Cases	Family Predisposition	Is Patient Tuberculous?	Does Author Support Tuberculous Etiology?
Pollitzer (J. Cutan. Dis. **10:** 9 [Jan.] 1892.....	1		No	No
Balzer (Bull. Soc. franç. de dermat. et syph. **15:** 328, 1904)	1	Mother-husband	Yes	Yes
Darier (Ann. de dermat et syph. **7:** 1075, 1906).	1		Yes	Yes
Brault (Bull. Soc. franç. de dermat et syph. **17:** 40, 1906)	1			No
Fordyce (J. Cutan. Dis. **26:** 311, 1908).....	1	Father		Yes
Wallis (J. Cutan. Dis. **27:** 132, 1909).....	1		Yes	Yes
Marzoochi (Gaz. degli osped., Milano **30:** 873, 1909)	1	Sister		Yes
Leiner and Spieler (Wien. med. Wchnschr. **59:** 1041, 1909)	4		Yes	Yes
Kinsberg (J. Cutan. Dis. **27:** 136, 1909).....	3			No
Pautrier (Bull. Soc. franç. de dermat. et syph. **20:** 170, 1909)	1			Yes
Gaucher (Bull. Soc. franç. de dermat. et syph. **20:** 170, 1909)	1			No
Dubois (Havenith: Policlin. **19:** 225, 1910)....	1			Yes
Pappagalo (Gior. ital. d. mal. ven. **51:** 415, 1910)	1	Sister		Yes
Messa (Riv. di. clin. pediat. **8:** 586, 1910).....	1			No
Ledo (Reo de med. y. cirug. pract., Madrid **88:** 54, 1910)	1			No
Burnett (Brit. J. Dermat. **22:** 312, 1910).....	1	Mother and aunt		Yes
Lipschutz (Wien. klin. Wchnschr. **24:** 149, 1911)	1			No
Coppolino (Gior. ital d. mal. ven. **52:** 402, 1911-1912)	2			Yes
Gaucher (Bull. Soc. franç. de dermat. et syph. **22:** 271, 1911)	1	Sister		Yes
Coyon (Bull. Soc. franç. de dermat. et syph. **22:** 425, 1911)	1		Other tuberculous skin lesions	Yes
Rusch (Wien. klin. Wchnschr. **25:** 1241, 1912)..	1			No
Pick (Mitt. d. Gesellsch. f. inn. Med. u. Kinderh. **10:** 139, 1911)	1			No
Hodara (Dermat. Wchnschr. **55:** 1515, 1912)..	2			No
Schramek (Dermat. Ztschr. **20:** 826, 1913)....	2			Yes
MacKee (J. Cutan. Dis. **31:** 568, 1913).....	3			No
Vianna (Tribuna med. **22:** 220, 1916).....	1	Mother		Yes
Elliot (J. Michigan Med. Soc. **16:** 22, 1917)....	1			No
Wise (J. Cutan. Dis. **37:** 105, 1919).....	1			Yes
Jadassohn (Cor.-bl. f. schweiz. Aerzte **49:** 455, 1919)	1		Yes	Yes
Chargin (J. Cutan. Dis. **37:** 210, 1919).....	1		Yes	Yes
MacKee and Rosen (J. Cutan. Dis. **36:** 55, 1918)	1		Yes	Yes
Smith (Brit. J. Dermat. **31:** 97, 1919).....	1			No

are caused by tubercle bacilli reaching the skin by way of the blood stream and being destroyed there by immune substances. Thus the theory that tuberculids are paratuberculous, either bacillary or toxic, the view most generally accepted today, is not without strong cor-

5. Rist and Rolland: Ann. de méd. **11**, No. 1, July, 1915.
6. Lewandowsky, quoted by Ormsby: Archiv. **123**:1, 1916.

roborative evidence. There are in the table, however, seventeen cases in which the authors declined to support the tuberculous theory. Did these authors overlook evidence of tuberculosis, or does clinical papulonecrotic tuberculid develop independently of the presence of the tubercle bacillus? The answer is not available.

INCIDENCE OF TUBERCULID IN KNOWN CASES OF TUBERCULOSIS

To obtain an expression of opinion bearing on the incidence of tuberculids in patients with active tuberculous lesions I wrote to about forty men of extensive experience in tuberculosis. While many disclaimed any knowledge of tuberculids, the consensus of opinion was that skin lesions in general and tuberculids in particular were exceedingly rare in tuberculosis. Fishberg [7] says, "In my experience tuberculids were found mostly in children, at times in adults suffering from tuberculous lesions of the bones, joints, or glands and only in extremely rare cases in those suffering from pulmonary tuberculosis."

It seems strange that tuberculids should be so rare with all forms of tuberculosis so common, if both are due to the tubercle bacillus or its toxins in all cases.

CIRCULATORY DISTURBANCES ASSOCIATED WITH TUBERCULIDS

A factor noted in clinical descriptions and in the study of cases is that the general physical condition of patients suffering from papulonecrotic tuberculid is below par. I wish to call particular attention to the fact that a great many persons suffering from papulonecrotic tuberculid have marked circulatory disturbances. Several authors make specific references to this. Crocker [8] says that papulonecrotic tuberculid occurs most frequently in patients with poor circulation. Wallis,[9] in reporting a case says: "The hands, the feet, and ears are cold and tingle, even when it is moderately cool; the ears are somewhat bluish in color." Marzoochi's [10] case presented cyanosis of the legs and feet. In Lipschutz's [11] case there was "cutis marmorato of the extensor surfaces of the upper extremities." Ormsby [12] says, "The subjects of this disorder often have a feeble peripheral circulation and are usually not

7. Fishberg: Personal communication.

8. Crocker: Diseases of the Skin, Ed. 3, Philadelphia, P. Blakiston's Son & Company, p. 1169.

9. Wallis: J. Cutan. Dis. **27**:132, 1909.

10. Marzoochi: Gaz. degli, osped., Milan **30**:873, 1909.

11. Lipschutz: Wien. klin. Wchnschr. **24**:149, 1911.

12. Ormsby: Diseases of the Skin, Ed. 1, Philadelphia, Lea & Febiger, p. 717.

robust." This was a prominent feature in the two cases I report, and may account to some extent for the areas of predilection for the eruption.

REPORT OF CASES

CASE 1.—*History.*—Mrs. P., a physician's wife, married at the age of 18, gave birth to four children in a period of about eight years. During her third gestation she developed a sacro-iliac relaxation and a marked aggravation of constipation that had developed following the birth of her first child. Following the fourth pregnancy, constipation became severe, with the appearance of

Fig. 1 (Case 1).—Condition of hands one month after beginning treatment.

symptoms of intestinal indigestion. Nervousness, fatigue, irritability, sleeplessness, capricious appetite, gaseous distention and abdominal distress developed and persisted. She was placed on a restricted diet, and lost about 70 pounds (31.75 kg.) in weight in a few weeks. This was immediately followed by the appearance of an eruption, which has persisted to date. Concurrently with the eruption there developed an arthritis of the smaller joints, pea sized tender nodules beneath the skin and large deep seated lesions of the calves of the legs. She was repeatedly examined for obscure tuberculosis, with negative results.

Physical Examination.—The patient, aged 54, was above average weight, but her musculature was flabby and the subcutaneous tissues on pressure gave a doughy sensation instead of the elasticity of health. She had a muddy skin, and marked discoloration of the skin about the eyes was noted. The extremities

Fig. 2 (Case 1).—Condition of legs one month after beginning treatment.

Fig. 3 (Case 1).—Lesions on arm one month after beginning treatment.

Fig. 4 (Case 1).—Stomach following bismuth meal.

Fig. 5 (Case 1).—Gastro-intestinal tract twenty-four hours after bismuth meal.

were cold and moist. Excessive sweating was noted. On the arms and legs were numerous lesions of papulonecrotic tuberculid in various stages of development, together with innumerable scars of healed lesions. Just beneath the skin, particularly of the arms, could be felt numerous pea sized nodules, which had appeared at intervals. On the calves were numerous quarter to dollar sized scars and one or two active lesions of clinical erythema induratum. Both hands were involved by a deforming arthritis. The chest was negative, both on physical examination and by roentgen ray. Tuberculin tests were negative. Physical findings in the abdominal cavity were proved by a series of roentgen-ray pictures taken following a bismuth meal. These findings summarized demonstrated a general enteroptosis with a marked dilated and prolapsed stomach, a dilated, prolapsed and spastic colon, with marked intestinal stasis. Pelvic examination was negative as was also roentgen-ray examination of the teeth and careful examination of the tonsils and sinuses. The blood showed a moderate leukocytosis. The urine was negative except for the constant presence of large quantities of indican. Blood chemistry was approximately normal and basal metabolism was slightly below the normal standard. Repeated examination of the intestinal flora revealed these pathogenic organisms in addition to the ordinary types: *Streptococcus viridans, Streptococcus hemolyticus* and *Bacillus pseudodiphtheriticum.*

Case 2.—*History.*—Mrs. L. R., aged 19, who had been married four years and was the mother of two children, developed the first lesion of papulonecrotic tuberculid during the fifth month of her last pregnancy two years before. Lesions first appeared on the legs, the arms being involved later, and a few lesions appeared on the face. Simultaneously with the eruption she noticed a gradually increasing loss of strength and tiring on slight exertion. She lost about 30 pounds (13.6 kg.) of body weight in a short length of time. Headaches, attacks of vertigo and sleeplessness were annoying. The gastro-intestinal symptoms were: anorexia, with bloating and eructation of gas, nausea and a feeling of fulness in the epigastrium and marked constipation. Frequent flushing of her face, choking sensations and flighty dreams were noted. At the time she was first examined she presented definite signs of hyperthyroidism, such as slight exophthalmos, nervousness, pulse rate over 100, a palpable thyroid, a fine tremor, positive von Graefe, Möbius and Rosenbach signs and oculomotor tests. Her basal metabolism showed a 31.8 per cent. increase over normal. Thinking there might be a definite etiologic relationship between the eruption and the hyperthyroidism a roentgen-ray examination was made of the thyroid gland, and she was put to bed for short time, followed by a period during which she took extra hours of rest, in addition to certain changes in her diet. The eruption disappeared entirely in about three months. She remained free from lesions for six months, when she returned with not only a new crop of lesions, but also a return of practically all symptoms complained of during the first attack. A complete investigation for tuberculosis which had been made during her first attack was repeated, with negative results. This included a roentgenogram of the chest and subcutaneous tuberculin tests, in addition to physical examination by an expert. Meanwhile, Case 1 having been investigated with findings as tabulated, a general examination, including the gastro-intestinal tract, was made.

Physical Examination.—The patient was a tall, slightly undernourished, pale young woman with flabby musculature, who presented a papulonecrotic eruption

covering her arms and legs. Her teeth, tonsils and sinuses were clinically negative.

The heart and, as noted above, the lungs were negative. She still had slight exophthalmos and a positive von Graefe sign, but the thyroid gland was apparently normal in size, and her basal metabolism rate, which was taken twice, showed a rate slightly below normal. The forearms and legs below the

Fig. 6 (Case 2).—Condition when first seen.

knees were cold and clammy. Gastro-enterologic study revealed the following: The stomach was extremely dilated, prolapsed and atonic but otherwise normal; there was no stasis in the stomach or small intestine. The colon was markedly dilated and prolapsed, and there was marked colonic stasis. The blood showed a low hemoglobin content and a moderate leukocytosis. The urine was normal except for the constant presence of large quantities of indican. *Streptococcus*

Fig. 7 (Case 2).—Condition of legs when first seen.

Fig. 8 (Case 2).—Condition of arm and hand when first seen.

Fig. 9 (Case 2).—Stomach following bismuth meal.

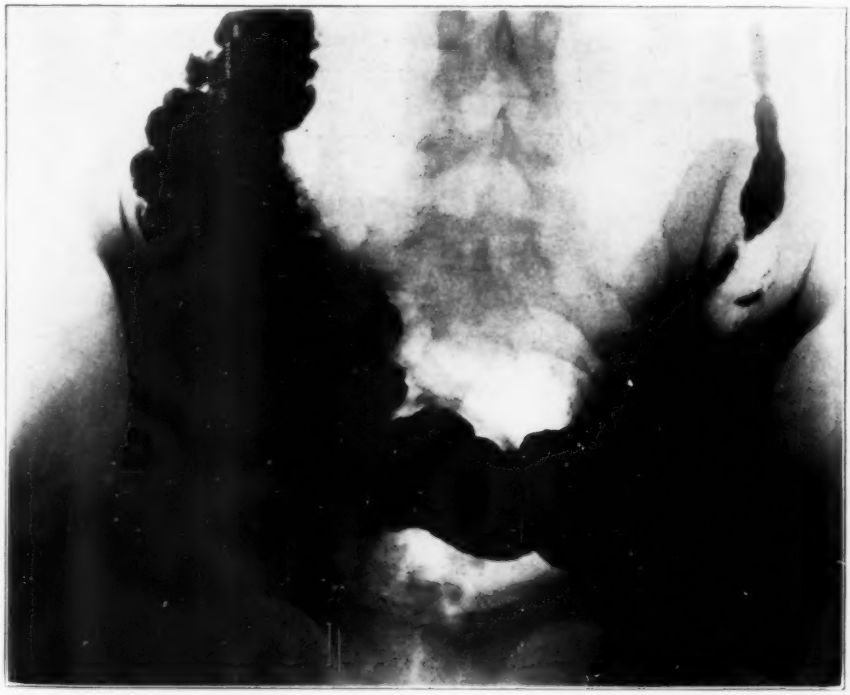

Fig. 10 (Case 2).—Gastro-intestinal tract twenty-four hours after bismuth meal.

viridans and *Bacillus pseudodiphtheriticum* were constantly recovered from the stools. The green streptococcus was always isolated from the deep tonsil crypts in practically pure culture.

HISTOPATHOLOGY

Tissue was removed in both cases for special investigation. Guinea-pig inoculations were negative for tuberculosis. Direct examination of serial sections for the tubercle bacillus was negative. Structurally, no resemblance to tuberculosis could be found. An area of central necrosis in the upper corium was surrounded by a more or less circumscribed inflammatory infiltration, which extended to approximately the level of the coil glands. The elements of the infiltration comprised principally small round cells and polymorphonuclear leukocytes with a scattering of epithelioid cells. No giant cells could be found. The blood vessels showed moderate dilatation with some swelling of the endothelium, there being a tendency to perivascular and periglandular arrangement of the infiltration, especially deep in the corium.

COMMENT

Thus we have two cases of papulonecrotic tuberculid associated with enteroptosis and intestinal stasis. The general symptoms of enteroptosis with stasis so well exemplified by the foregoing case reports are, in the opinion of Adami,[13] due less to intoxication than to low grade bacteriemia. McGarrison,[14] by feeding faulty foods to monkeys and pigeons, produced such conditions as dilated stomach, dilated colon and congestive and necrotic inflammatory changes in the mucous membranes, and was able to demonstrate histologically direct communication of intestinal organisms to the blood stream. It is but a step further to visualize colonization of organisms of comparatively low pathogenicity with resulting tissue reactions to account for papulonecrotic tuberculid. In Case 1, the association of the eruption with chronic arthritis, erythema induratum and rheumatic nodules appearing at the same time suggests a common etiologic factor. The recent paper of Billings, Coleman and Hibbs[15] demonstrates rather conclusively that chronic arthritis is primarily an infectious disease having its origin in various foci of nonhemolytic streptococci of low virulence. Mutch[16] also found streptococcal infections responsible for chronic arthritis, and he recovered the organism from the nose and throat in 34 per cent. of his cases, from the teeth in 52 per cent. and from the stools in 84 per cent.

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13. Adami, quoted by Stockton in Oxford Medicine, New York, Oxford University Press, **3**:204.

14. McGarrison: Sixth Mellon Lecture, University of Pittsburgh, Nov. 18, 1921.

15. Billings, Coleman and Hibbs: Chronic Infectious Arthritis, J. A. M. A. **78**:1097 (April 15) 1922.

16. Mutch: Lancet, **2**, No. 5129, Dec. 17, 1921; abstr. J. A. M. A. **78**:310 (Jan. 28) 1922.

EXPERIMENTAL LESIONS

Theory.—By injecting pure cultures of green streptococci into the skin of patients having papulonecrotic tuberculid, we have been able to produce indolent inflammatory lesions which leave fine scars. It is likely that the method of inoculation may well account for a clinical appearance differing from the typical tuberculid. We noted with interest that inoculations into the skin of thirty healthy persons did not produce lesions. This, of course, suggests a predisposition to infection. Such predispositon might be the result of general lowered resistance, anaphylaxis in reference to the organism or vasomotor instability. Two of our controls with circulatory stasis, as evidenced by cold, clammy extremities and cutis marmorata, developed experimental lesions resembling rather closely papulonecrotic tuberculid. With these results it was natural to believe that the clinical picture was produced by tissue reactions to green streptococci whose localization was determined to a great extent by circulatory stasis. Further investigation, however, proved this to be at least too limited a conception. Attenuated colon bacilli were injected with rather startling results. In addition to local lesions resembling tuberculids, there immediately appeared a rather extensive crop of lesions on the arms and legs that closely resembled the local lesions and papulonecrotic tuberculid. These lesoins persisted for two months and left fine scars. *Thus the theory is presented that clinical papulonecrotic tuberculid in certain cases is the result of dissemination of a variety of feebly pathogenic organisms from different foci of infection, localization and lesion formation determined by circulatory stasis and lowered resistance.*

Treatment.—No local treatment was given. Both patients were placed on treatment for their general condition, the treatment following more or less closely the indications pointed out by Bryant.[17] Extra hours of rest were ordered and an attempt made to so regulate the routine of life that the minimum of stress, both physical and mental, might result. Meat, fish and eggs being putrefactive types of food, were eliminated from the dietary. Raw chopped cabbage, cheese and gelatin were added. All kinds of vegetables and fruit were permitted. Bran muffins and whole wheat bread were recommended. A routine hour for evacuation was insisted on. Colon irrigations with hot saline solution were ordered. No laxatives were given. The patients slept with the foot of the bed elevated. Abdominal supports were worn and massage practiced. The tonsils were removed in Case 2. Five grains (0.32 gm.) suprarenal gland substance and atropin sulphate $\frac{1}{200}$ grain (0.0003 gm.) were given three times daily.

17. Bryant: Am. J. M. Sc., Jan., 1921, p. 63.

Results.—The patient in Case 1 had been unable to leave her bed for six weeks prior to the institution of the foregoing treatment on account of an exceptionally severe exacerbation of her arthritis, which was associated with the appearance of new and painful lesions of clinical erythema induratum and a new crop of papulonecrotic tuberculid. She had from ten to fifteen active lesions on each arm at that time. In about three weeks the eruption had retrogressed to the point indicated in the illustrations, at which time the theory herewith evolved presented itself. The patient has regained her lost weight, and her skin has lost its muddy tint. She has had isolated papulonecrotic tuberculid, with long intervals of freedom from eruption. There has been no recurrence of the erythema induratum. The arthritis remains about stationary. She expresses herself as feeling better than she has in years.

A more or less generalized eruption in Case 2 cleared in approximately six weeks. The patient remained free from lesions for about two months, when one of her children developed a severe illness, and she had a recurrence. On reestablishment of her routine, the eruption disappeared again completely, and except for experimental lesions she has remained clear during the past year, and has regained her lost weight and vigor.

COMMENT

Both patients have regained their lost weight and their general health has been materially improved. In both cases improvement in the skin condition has occurred which could hardly be explained on the basis of an interval in a recurrent dermatosis. The eruption in Case 2, in the younger patient, cleared quite readily. Both patients were at one time thought to have tuberculosis, this diagnosis later proving to be erroneous. The appearance, subjective symptoms and general physical condition of these so-called "chronic intestinal invalids" is so strongly suggestive of tuberculosis that one wonders (if the theory of this association is tenable) how often tuberculosis is erroneously diagnosed, and correspondingly erroneous support given the tubercle bacillus or its toxin for the production of papulonecrotic tuberculid.

DISCUSSION

DR. ERNEST L. MCEWEN, Chicago: I believe that the methods of the internist should be applied to dermatologic work, as Dr. Guy has done. That procedure promises a great deal to dermatology of the future.

DR. J. M. H. MACLEOD, London: This is a difficult and confusing subject, possibly because of the nomenclature. There seems to be little doubt that there are many cases which we call papulonecrotic tuberculid which are not tuberculids. Occasionally tubercle bacilli are found, and inoculation experiments have been positive. In some instances, tuberculosis is found elsewhere in the patient. Then there is a class of patients that I find difficult and common

over on our side, who have lesions on the exposed parts. This class goes under various names—we usually call the condition folliclis. These cases occur almost invariably in winter when the cold weather comes, and they clear up in summer. The scarring is slight, but the eruption persists during the whole of the cold period. In those cases I have rarely found any relation to tuberculosis, although I have searched for it. I have often wondered whether or not the disorder in a certain number of those cases was not simply a circulatory disturbance.

Dr. Martin F. Engman, St. Louis: I believe the condition we term papulonecrotic tuberculid is one of the most interesting with which we have to deal. The lesions on the skin are generally connected with some dyscrasia in the body functions. We have taught for a number of years that what we call papulonecrotic tuberculid may be due to one of several micro-organisms. I believe the lesion itself is always due to presence in situ of some organism. It may be a tubercle bacilli or some other organism. We have a great many cases in St. Louis among the factory workers, particularly among the girls. I think we have more than any other city I have visited. They all get well rapidly, particularly on rest in bed with a nutritious diet. This as a general thing is the best therapeutic measure. When we have these lesions as the result of tubercule bacilli, it seems to me they are in the form of an immunizing reaction and are associated with tuberculosis elsewhere. An anaphylactic reaction produces the lesion which we call the papulonecrotic tuberculid. This may apply to several other organisms, but when the lesion is due to other organisms it should be called something else. I cannot from the histologic appearance of these lesions believe that they are due to a toxic condition, but I believe they are due to the actual presence of an organism in the lesion.

Dr. Jay Frank Schamberg, Philadelphia: Dr. Guy has done a real service in bringing forth evidence that lesions undergoing necrosis and simulating the so-called papulonecrotic tuberculid have been unaccompanied by tuberculosis and have been associated with intestinal stasis. I have for a long time been interested in intestinal toxemia in relation to diseases of the skin and have attempted to carry on experiments along this line, but the difficulties have been so great that we have not been very successful. There can be no doubt that bacteria are at times absorbed from the intestinal tract. Adami, some years ago in working on dogs, commonly found the colon bacillus in the liver and in other organs, and we know there are occasions when the colon bacillus gets into the system and produces pyelitis and other conditions. It has been maintained that the streptococcus is an important factor in the cases discussed. The whole chapter on infections from the intestinal canal as distinguished from intoxication merits attention. I am firmly convinced that when the identification of intestinal poison of various kinds is better understood we will find that many dermatoses are related to infections from the intestinal canal and intoxications from this tract.

Dr. Sigmund Pollitzer, New York City: My work on this subject was done when our knowledge of the tubercle bacillus was still very recent, and the term tuberculid had not yet been invented. I think this work of Dr. Guy presents a strong argument in favor of my suggestion that the term tuberculid be dropped from our nomenclature. The disease in question is simply a granuloma, clinically papulonecrotic, and a great deal of confusion might be avoided if we name the disease in accordance with its known anatomic and clinical features. There certainly is no doubt that a great many cases diag-

nosed clinically as papulonecrotic tuberculid are really due to tuberculosis, but just as in erythema nodosum we have groups of cases that cannot be differentiated clinically, due to a variety of bacillary causes, so I think we have in granuloma necroticum a condition in which the lesions may be due to tubercle bacilli in some cases and in others to other organisms. This is another illustration of what we are beginning to realize, that the skin, which has a limited number of reactions, may react in the same way to different etiologic factors.

Dr. William H. Guy, Pittsburgh: I wish to call attention to the remarkable response obtained without treatment of the local lesions. These were definite cases of granuloma papulonecroticum, the diagnosis having been agreed on by two members of this Association in each case. The experimental work might well be repeated by some one having a considerable number of cases to study. Two cases only serve as the excuse for the elaboration of a theory, but these observations have convinced me that a certain number of cases will fall into this group and respond to systemic treatment of the general condition.

A SERIES OF ANGIOMAS IN BABIES*

GEORGE D. CULVER, M.D.

SAN FRANCISCO

Angiomas of the cavernous type usually create anxiety, especially when increasing in size, and they are usually so situated as to be disfiguring. The physician may find it difficult to exclude malignancy when the nevus is in a rare situation, or when its appearance is altered by necrosis.

After the continuous appearance of only girl babies with tuberous angiomas became apparent, with each new one the question, "Is it another girl baby?" became almost a joke. A one sex series of fourteen instances of girl babies with cavernous nevi was broken by the fifteenth case, and of eight subsequent instances only one was a male. The proportion of twenty-one females to two males, more than ten to one, would make interesting statistics were the number sufficiently large. No positive conclusion can be drawn from so small a number.

Previous to this series of cases presenting this type of nevi, those I had seen with tuberous angiomas constituted a heterogeneous group. They were babies, young children, adolescents and adults. Some of them were treated, others were not. All the well-known methods of treatment were used or had been used, sometimes with success, often with imperfect results, and sometimes with failure. I did not find a note in any of the older records indicating any evidence of necrosis of an angioma, one of the points of especial interest in this group, of which there were two instances.

A number of the children had more than one nevus. There were twenty-nine locations affected, and twenty-five were about the head, mostly on parts of the face. The situations were as follows: forehead, 6; cheeks, 4; nose, 5, with 2 on the tip, 2 on the side and 1 in the left naris extending onto the skin of the upper lip; 3 of the skin of the upper lip; 2 of the upper eyelids; 2 of the left ear; 1 of the chin; 1 of the area outside the left eyebrow and 1 of the back of the neck. There was 1 of a finger, 2 of the left upper arm situation, and 1 of the right foot.

All the children were apparently well; many were exceptionally fine, healthy looking babies. Sixteen were under 1 year of age, and

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only one was more than 19 months old. In nearly all there was a history of an increase in the size of the nevus, the parents stating that the "birthmark is growing." In none had there been an apparent decrease.

Fourteen angiomas were first noticed at birth, the lesion often appearing as a small red spot, some as distinct nevi and others, in which a history of the time of appearance was elicited, were first noticed from two to four weeks after birth. They varied in size from a few millimeters in diameter to swellings several centimeters across.

In addition to the disproportion of the sexes and the question of treatment, the possibility of angiosarcoma was presented.

There is a black necrotic center in the nevus and an open wound below. There is a cicatrix at the right. The lesion resembled an angiosarcoma.

POSSIBLE ANGIOSARCOMA

One of the patients, a baby girl 19 months old, was brought in because of a rapidly growing vascular tumor of the right foot near the bases of the third, fourth and fifth toes. There was slight discoloration of the dorsal surface and more of the sole, with some projective swelling in this location, which the child favored in such a manner in walking as to wear out the inner portion of the shoe first. The lesion was quite sensitive to pressure. The rapid growth had begun a few weeks before the child was treated. There was at the time of treatment, and there is still, the question as to whether or not the growth was an angiosarcoma.

Crossfire gamma irradiation was apparently effective in causing a disappearance of the tumor, and the foot has remained apparently normal in every respect for one and one-half years.

Because of the tumor's serious import, its deep situation and extent, irradiation was carried further than ordinarily. The foot was exposed to thirty hours of irradiation with 100 mg. of radium, during five successive days. Screening with 0.35 mm. of silver (which was the thickness of the silver tubes), 0.75 mm. of brass, 2 mm. of lead, 2 mm. of rubber and sixteen layers of gauze was effective in preventing a break in the skin surface.

ULCERATION OF ANGIOMA

In two of the children the nevi had ulcerated. The first child was seen after the ulcer had healed. The nevus was on the left cheek of a girl 10 months old. It was first noticed at 2 weeks of age, appearing like a mosquito bite. At the time of treatment it caused the cheek to project like a truncated cone. At its base an area as large as a small walnut felt spongy. An area of 1.5 cm. across its top was red, and in the center of the red area was a cicatrix. This cicatrix was the result of an ulceration which had begun three months previously, and had remained an open wound until four days before advice was sought.

The second instance in which there had been necrosis is shown in the illustration. It was that of a baby girl 2 months old who presented a cavernous nevus on the outer surface of the left upper arm. The tumor was of the large, protuberant variety, deep red, and 3.5 cm. in diameter. The middle portion was ulcerating, with a black necrotic mass in its center. Near the ulcer there was a scar. As there was no history of a previous open wound, the impression gained was that the scar was the result of ulceration and healing which had occurred prenatally. Because of the difficulty of distinguishing in this case between an angioma with necrosis and an angiosarcoma, a guarded prognosis was given, and vigorous irradiation with radium advised. One hundred and fifty milligrams of radium element screened with 0.35 mm. of silver, 2 mm. of lead, 4 mm. of rubber, covered with twelve layers of gauze, was applied six and one-half hours on each of two successive days. Six days later the ulcer was a clean looking wound, cleared of the gangrenous center. It was noted from time to time that there was a steady disappearance of the redness and swelling, a progressive healing of the ulcer, which did not at any time have the appearance of radium necrosis. Substantiating this was the fact that the ulcer had begun before radium was used. It appeared too deep too quickly after irradiation, and the healing was much more rapid than

would have occurred had an unexpected radium necrosis followed. The heavy screening was for the purpose of preventing even a superficial necrosis.

Little is said in the literature of ulcerating nevi. Adamson calls attention to them in a small paragraph at the end of his advice on the treatment of vascular nevi. He states that "the most satisfactory method of treating ulcerating nevi is by boric acid fomentations. The crusts and discharges are soon removed and replaced by a healthy granulating ulcer, which rapidly cicatrizes, the cicatrix leading to partial, and sometimes to complete cure of the nevus."[1] Macleod[2] states that "occasionally as the result of some slight abrasion and the inoculation of pus-cocci an indolent type of ulceration is produced with a viscid discharge, especially liable to occur in nevi about the genitalia or in intertriginous regions like the groins, but it is not a serious matter, as the fibrous changes consequent on the inflammation gradually lead to involution of the lesion and ultimate cure." MacKee,[3] in speaking of what he terms the nevus vasculosus, says that "involution may be due to ulceration or traumatism."

There are several reasons for accentuating the fact that vascular nevi do ulcerate. The clinical picture may be alarming, not only to the child's parents, but to the physician as well. The appearance may be so altered by the necrosis that difficulty in determining the lesion to be a nevus only may arise. Postponement of treatment when irradiation with radium is indicated is unnecessary, as with heavily screened radium the nevus tissue can be destroyed, and the ulceration is not increased; on the contrary, it may be decreased and influenced to heal more rapidly. Then, too, of great importance is the fact that the resultant scar of the necrosis produced by infection is rendered less disfiguring by the irradiation. Where necrosis is in evidence and an uncovered ulcer is not yet manifest, it is advisable to call attention to what may be anticipated, otherwise the radium is likely to be considered the cause.

TREATMENT

All of this group were babies that came under observation after radium was available as a therapeutic agent for the treatment of nevi.

Three of the twenty-three patients were not brought back for treatment, and were not followed subsequently. Twenty were treated by irradiation with radium. It is my belief that radium stands almost

1. Adamson, H. C.: Skin Affections in Childhood, New York, Oxford University Press, p. 11.

2. Macleod: Pathology of the Skin, Philadelphia, P. Blakiston's Son & Company, p. 182.

3. MacKee: X-Ray and Radium in the Treatment of Diseases of the Skin, Philadelphia, Lea & Febiger, 1923, p. 486.

alone as the therapeutic agent of choice for the removal of tuberous angiomas. It is painless, almost constantly effective, so simple of application and so devoid of disagreeable effects when carefully used that it approaches what can be considered almost a perfect means to an end. Age does not influence the effectiveness of it. I have seen similar nevi in adults, both of the skin and of mucous membrane, yield delightfully; and a baby can be treated at any age. There is no reason to wait for the child to grow older, nor is it necessary to postpone treatment hoping for a retrogression or disappearance. It is possible to avoid any skin destruction, and scarring is unnecessary if the epithelium is intact at the time of treatment.

More than six years of experience in the use of radium, working with close to 200 mg., in plaques, tubes and needles, has influenced me progressively toward a greater dependence on heavier screening and longer exposures for treatment of lesions in which the vascular structure plays an important part. This holds true in the chronic pernios, in granuloma annulare, granuloma pyogenicum and not less so in lupus erythematosus; and as stated before, I know of nothing more gratifying than the results obtained in the irradiation of tuberous angiomas.

Plaques, needles or tubes seem to work equally well. Sufficient screening to avoid destruction of the epithelium is desired. Irradiation of the whole surface of the nevus is best. Less than six hours of exposure has not been as satisfactory as six hours or more. From twenty-five to 150 mg. of radium, with screening additional to the radium contained of 2 mm. of lead, from 2 to 4 mm. of rubber and from twelve to twenty layers of gauze, where the larger amount of radium is used, is usually best. One six hour exposure may be sufficient. Usually a repetition in from six to eight weeks is necessary, and sometimes a third and fourth. Where crossfire irradiation is possible it helps greatly.

I have not seen any subsequent telangiectases where a break in the epithelium has been avoided.

The nevus flammeus does not yield satisfactorily to radium, except in a small percentage of cases.

CONCLUSIONS

The marked disproportion of the sexes in this small series of cases presenting one type of birthmark may be due to one fact only—it may be a freak series. It is unlikely that parents brought in their baby girls because they were girls, for the mother of the present day is as proud of her son's appearance as of her daughter's. If the circulatory apparatus of the gentler sex is more labile than that of the

male, that may be a factor. The fact that most of the nevi were growing was not remarkable as that was one of the reasons that prompted the seeking of advice.

Fortunately, with a nevus that cannot be clinically distinguished from an angiosarcoma and for which radical removal would either not be permitted, or if permitted would be futile, vigorous irradiation with radium is the most effective treatment.

The effect of radium on sluggish necrosis is excellent. The indication is to treat an ulcerated angioma by irradiation immediately.

In the use of a therapeutic agent one has to be guided largely by one's own experience. I am convinced that the most complete removal and the best cosmetic result in the treatment of the nevus cavernosum with radium is obtainable with heavy screening and a sufficient time element.

DISCUSSION

Dr. Fred Wise, New York: Dr. Culver's paper is interesting to all those who use radium and ultraviolet light in the treatment of this type of nevi. The angioma is rarely seen in adults, and the statement has been made by some that if these angiomas in children were left alone they would get well. That statement, of course, is partly correct; but if a mother brings her child with angioma into the clinic it is necessary to treat the patient, for several reasons. One is that the mother is extremely anxious to get rid of the lesion because the relatives and neighbors criticize and annoy the mother and her offspring; the second reason is that when the angioma affects the tongue there is danger of the child choking. There is on record a case in which the child choked to death from an angioma of the tongue.

The question of spontaneous healing is interesting. Some angiomas heal, not as a result of infection, but as the result of fibrosis taking place without infection. It is not necessary to have a break in the lesion to effect the cure; some get well without it.

If radium were of no use for any other dermatosis than angioma, it would still be a highly useful remedy in the hands of dermatologists, for many small angiomas disappear under two applications. Not only is it the remedy of choice, but it is also the only remedy that is of real value in bringing about a good cosmetic result. Dr. Fordyce has told me that he has secured good results with carbon dioxid snow. I admit that you can cure the lesions with this remedy, but the results are not good as compared with the results from radium. Why the portwine marks should be so resistant to radium treatment as compared to angiomas has always been puzzling to me in spite of my knowledge of the difference in the pathology of the two lesions. I see no reason why they should not respond, but the cosmetic results from radium in portwine marks are usually poor.

I might say that the ultraviolet light has been the only remedy in our hands that has given even moderately good results in the treatment of portwise marks.

Dr. William Allen Pusey, Chicago: I have been rather struck by some of the points that Dr. Culver brought out. For example as to the question of sex, I see any number of boys with this complication.

As to nevi sloughing spontaneously, that is by no means a rare event. It is the only means for spontaneous cure. In large angiomas the production of this necrosis is often the best process to pursue. My idea in that direction was gained by a bad angioma in a boy sent to me by John B. Murphy. This was in the early days of the use of carbon dioxid, and in a cautious way of attempting to do something for the patient I stuck two or three pencils of carbon dioxid into the angioma, expecting to treat other places later. To my surprise, the entire thing sloughed away with an excellent result in the end. I like to treat these cavernous angiomas with carbon dioxid. I am not over-enthusiastic about carbon dioxid, but in the angiomas, to my mind, it furnishes an excellent method of treatment in many cases.

When it comes to using radium in these cases, I am not interested in the micrometer measurement of the screens. In dealing with skin lesions I think we need all the rays that will go through a millimeter of aluminum and 0.1 mm. of lead. I think we overdo our meticulousness in the accuracy of the thickness of the screen. The important thing to do is to screen out the alpha and beta rays and then use the radium. I wish to express my opinion that screening beyond a certain point is a secondary rather than a major point in the technic.

In the treatment of flat angiomas, Dr. Lane just told me that Dr. Wise was very modest in describing his results with the quartz lamp and that he has achieved marvelous results with this treatment. In my expericence, our results have not been as good as we would like by this method. We have treated flat nevi with the quartz lamp and obtained some improvement but not as much as we wish. I think I get the best results by using a radium plaque 2 cm. square and giving a suberythema dose.

Dr. George D. Culver, San Francisco: In reference to the heavier screen, I think that with the heavier screening and long exposures the telangiectasia in these cases can be avoided entirely.

LICHEN PILARIS SEU SPINULOSUS (CROCKER)

REPORT OF A CASE *

H. J. F. WALLHAUSER, M.D.

NEWARK, N. J.

In 1883, Crocker described a peculiar follicular keratosis with acute onset under the title "Acute Lichen Pilaris (Spinulosus)," occurring in irregular patches symmetrically arranged, in which the papules were pinhead sized, of normal skin color, evidently located about the hair follicles, with a spiny projection of horny epithelium.

The locations affected were quite uniform in nearly all the cases described, the trunk and face being free. The parts involved were the back of the neck, the arms near the shoulders, around the axillae, the flexures of the elbows, the tips of the elbows, over the ilium, the posterior surfaces of the thighs, the outer side of the knees, the popliteal spaces, over the tibia in front, the sacral region and the gluteal cleft.

In the third edition of Crocker's textbook the condition was described under the name of lichen spinulosus (Devergie), which seems to have been a mistake since there are no records of any article by Devergie on this subject. About twenty cases were shown at the London Dermatological Society up to 1905, when Adamson, in an endeavor to classify under this head cases of similar keratosis of the follicles that were being reported under various titles, included the following group: acné cornée of Hardy, acné cornée of Guibout and of Leloir and Vidal, the case of acné cornée en aires of Hallopeau—possibly his three cases of acné cornée in adults—Barbe's cases of kératose folliculaire (type de Brooke), Audry's case of kératose pilarire engainante and Giovannini's case of acne cornea.

This did not, apparently, meet with general approval on account of the uncertainty of the position held with regard to acceptance of lichen spinulosus as a clinical entity, some claiming its occurrence as an added manifestation in certain cases of lichen scrofulosorum—follicular syphilid—the follicular type of dermatitis seborrhoeicum and lichen planus; that it was not uncommon as an associated condition in lichen planus was shown by cases presented by McLeod, Pringle, Colcott Fox, Malcolm Morris and others. These cases were all combined in type or became so later, as in one case shown by Pringle which was follicular in the beginning, developing the plane lesions after several months. Pringle was inclined to regard it as of common origin with

* Read at the Forty-Sixth Annual Meeting of the American Dermatological Association, Ann Arbor, Mich., June 7-9, 1923.

lichen planus. In other words, its occurrence was unquestioned, but agreement as to its being a specific disease was not accepted.

A classification of the cases into types was advanced by Sequeira, in which two varieties were recognized. Class one occurred in children in which the lesions were symmetrical on the limbs, neck, buttocks and sometimes on the face, consisting of groups of fine filiform spines arising from pinhead sized, pale or slightly red papules around the pilosebaceous follicles.

Fig. 1.—Left leg, showing involvement of outer side of knee and leg, due to pressure from crossing the legs.

In class two adult cases were grouped as follows: (*a*) uncomplicated, as in a case under the author's observation in which the eruption involved the trunk, axillae, groins and upper and lower extremities, consisting of brownish, raised, blunt elevations and smaller pointed papules situated in the hair follicles. The spines could be picked out leaving conical cavities. (*b*) Complicated cases of this type were described by Graham Little, Doré and Wallace Beatty associated with folliculitis decalvans. (*c*) Cases in which the spiny lesions were associated with lichen planus.

While this classification does not offer a solution to the whole problem, it would seem desirable in order to separate possibly dissimilar conditions until further investigation can decide the issue.

The histopathologic findings varied accordingly. Crocker described the disease as an inflammatory one of the follicles with congestion of the vessels at first, followed by slight effusion around the follicles and

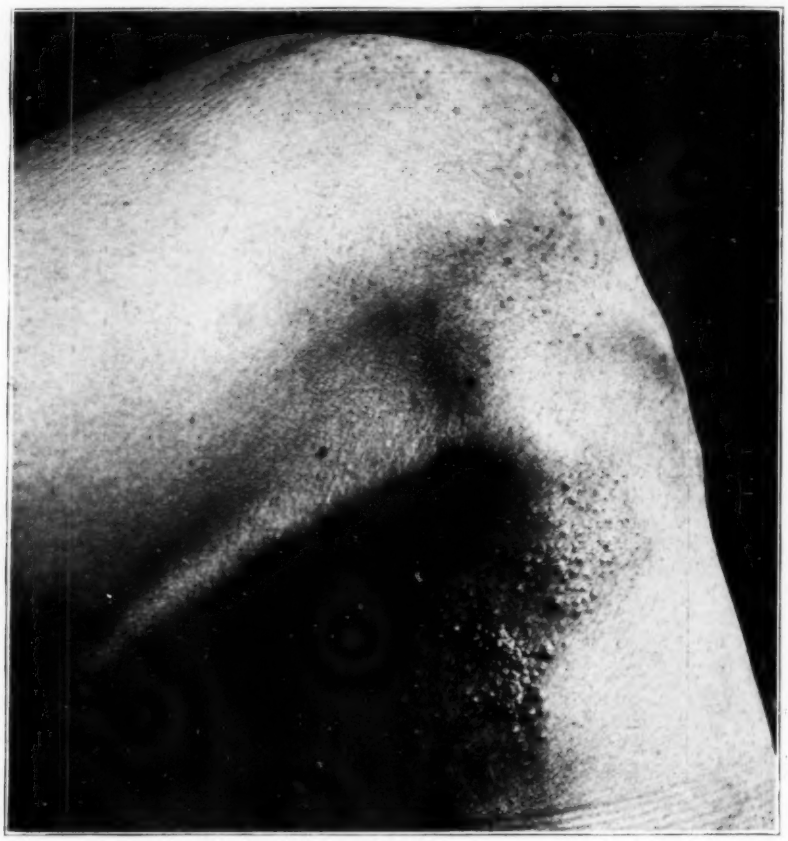

Fig. 2.—Right leg, showing same involvement as in Figure 1.

hyperplasia of the epidermic cells. Adamson did not confirm the early inflammatory stage, ascribing the reddened lesions to local irritation; he says that it is essentially a hyperkeratosis of the follicles, perifollicular inflammation being absent or very little marked; while Lewandowsky concludes from clinical observation and histologic findings that it is an inflammatory affection of the follicles with secondary hyperkeratosis.

Etiologically, a toxic origin has been most frequently advanced. Crocker's cases occurred chiefly in children, and several of his patients

were pale and delicate, but there was no definite evidence of ill health. Adamson, in the absence of any evidence that the condition was due to local mechanical or parasitic action, was inclined to regard it as of toxic origin, offering in support of this view its occurrence in weak children and its strong resemblance to the lesions of lichen scrofulosorum, which was likewise of toxic origin. Doré suggested that external irritation might be a causative factor in some cases as in the development of multiple comedo and folliculitis following applications of grease to the skin. He had recently seen a case of lichen spinulosus

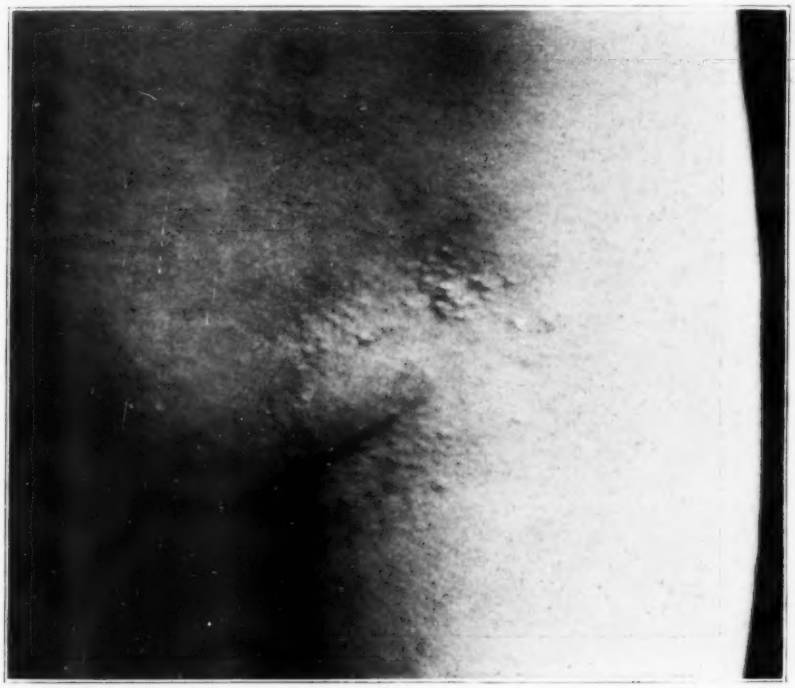

Fig. 3.—Showing involvement of area over trochanter from pressure while lying on side.

of a fortnight's duration in a young woman, which was attributed to the wearing of furs around the neck.

Whitfield agreed with Doré that irritation was a factor in the distribution of the spines. He thought there was a special susceptibility of the skin which caused it to react to slight irrtants by the overproduction of horny material in the same way that any chronic disease of the lanugo hair follicles was likely to be associated with spine formation. Favoring the contention of Doré and Whitfield, we are confronted with the fact that the eruptions in a majority of cases were

isolated in character over locations that are most liable to irritation from local pressure, such as the nape of the neck, over the scapulae, the ilia, trochanters, sacral region, outer portion of the knees, around the axillae and popliteal spaces.

The following case in which the eruption could be definitely traced to pressure and in which a toxemia due to syphilitic infection was also present, appears to add a strong point in favor of these deductions.

Fig. 4.—Showing involvement of elbow due to pressure from leaning.

REPORT OF A CASE

A man, aged 63, born in the United States, single, a piano maker, whose general condition was below normal and who tired easily but was able to continue his occupation, complained of shooting pains in the lower extremities at intervals lasting several days. There was no previous history of any skin disease. Nothing unusual was found in the general examination, except a moderately low blood pressure which was: systolic, 128; diastolic, 80. Neurologic examination by Dr. Beling showed Argyll Robertson pupils, absent knee and Achilles' reflexes, static ataxia, loss of bone and muscular sensibility, slight detrusor weakness of bladder and no tactile sensory disturbances. The condition was diagnosed tabes dorsalis in a quiescent state.

The patient stated that about two years ago he noticed that when he crossed his legs the skin corresponding to the area of contact became unusually reddened,

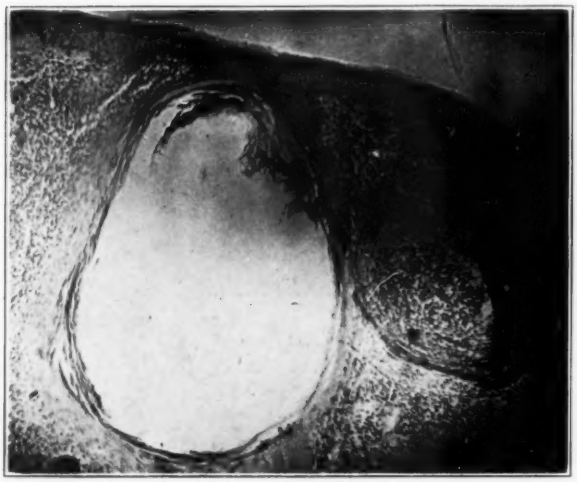

Fig. 5.—Distended follicle, showing lamellated character of keratosis, part of which was torn out of follicle in cutting section seen to the right of the follicle.

Fig. 6.—Epidermis outlying follicle showing acanthosis with edema and vacuolization of prickle cells.

the redness remaining for several hours. This condition gradually became evident in other locations when subjected to prolonged pressure, that is, on arising in the morning he would notice an area of redness over the trochanters, and where the legs had been in contact along the inner aspects of the knees while lying on his side; also on the elbows after leaning on them. Gradually he noticed that as the redness faded pinhead sized points of redness would remain, which became permanent and roughened as time went on.

When he came under observation the eruption was limited to the areas described heretofore, and consisted of pinhead sized conical papules with projecting horny spines. The papules were mostly of normal skin color; a few, however, were reddened at the base. Over the elbows they were few in number and

Fig. 7.—Cellular infiltration surrounding follicle.

scattered; while over the trochanters and sides of the knees they were crowded and inclined to form patches with irregular outlines. The keratotic plugs could be picked out leaving corresponding depressions.

The lesions have persisted unchanged, none having disappeared, although the degree of keratosis has varied, the keratotic plugs being occasionally exfoliated as hard, gritty masses. There were no subjective symptoms referable to the areas involved.

Pathology.—The main feature consisted of a perifolliculitis with a hyperkeratosis of the follicles. The follicles were distended and filled with flattened horny epithelium concentrically arranged in lamellations; the nuclei were indefinitely stained, and only a few were observed; the walls were compressed and thinned.

Beyond the follicles an inflammatory area was evident, and the prickle cell layer showed a mild degree of acanthosis. The cells stained poorly; the interepithelial spaces were widely distended and an intracellular edema was present, many cells showing vacuolization with the nuclei lying in clear spaces. The keratohyalin layer was well retained, the eleidin cells being deficient or absent, while the horn cell layer showed a moderate hyperkeratosis. Immediately beneath the epidermis a cellular infiltration surrounded the follicles, extending along the vessels to the deeper corium. The cells were mostly of the small round cell type, with a few plasma cells with eccentric nuclei. The connective tissue cells were increased, especially around the follicles and vessels. The cellular elements of the sweat glands and sebaceous glands appeared normal.

SUMMARY

The occurrence of an acute hyperkeratosis of the follicles as described by Crocker is well established; also that it frequently occurs as an uncomplicated affection in childhood, rarely in adults.

Its occurrence as a complication in other forms of well established skin conditions cannot be denied, since it occurs in cases in which a clear differentiation is impossble, this being especially true in lichen planus and lichen scrofulosorum, in which spine formation has taken place.

The case reported was considered particularly interesting on account of the peculiar onset, which has not been previously recorded.

DISCUSSION

Dr. Oliver S. Ormsby, Chicago: I have seen only a few patients with the lichen spinulosus of Crocker, and all of those patients had distinctly smaller lesions than the ones in the present case. They occurred in groups on the trunk, and we have seen them principally in children. In an adult case the disorder occurred in association with folliculitis decalvans of the scalp. While I do not wish to say that this is not one of those cases, it differs in these respects from the ones I have seen.

Dr. Fred Wise, New York City: Dr. Wallhauser's paper is interesting not because this is an important skin disease, but because it will help to eliminate some of the names that have been used for it. His, I think, is the first case of lichen spinulosus in which the sequence of clinical phenomena was followed. The man had erythema at the points of contact when he crossed his legs. So far as I know, that has not bebore been described as being a precursor of the appearance of the lesions. While this eruption has been extremely rare in my experience, it is a disease that is important because of its being mistaken somtimes for other diseases. I should think those who have seen enough cases of lichen scrofulosorum or of lichen planus would not consider lichen spinulosus in differential diagnosis, for the three dermatoses are easy to differentiate clinically.

Dr. Francis E. Senear, Chicago: I had occasion a few years ago to see a case associated with folliculitis decalvans. In that case the eruption was characteristic of lichen spinulosus, and the symptom Dr. Wallhauser and Dr. Wise commented on, the persistent erythema, was noticeable in that case. There was some erythema and redness, and the base of the patches suggested sebor-

rheic eczema. I am in accord with Dr. Wallhauser that various toxic factors may cause the eruption. In my case, I suggested an analogy with lichenoid tuberculids and trycophytids, and I think that is borne out. Recently I saw a girl with a mild degree of ichthyosis and keratosis pilaris, and after the desquamation from an attack of scarlet fever cleared up, she had a characteristic lichen spinulosus. The patient apparently had a congenital tendency to hyperkeratosis, and following the acute infection of scarlet fever she developed the characteristic lichen spinulosus.

I am grateful to Dr. Wallhauser for bringing this to our attention, and I agree with Dr. Wise that while it is a useful clinical term I am not inclined to look on it as an entity that is deserving of much attention. I think it is merely a follicular type of hyperkeratosis.

Dr. J. M. H. MacLeod, London: I think the case is one of the condition known as follicular ichthyosis, which is a typical follicular keratosis. In the usual type of Crocker's disease the lesions are smaller, and there is not much involvement about them. I doubt the possibility of the original Crocker's disease being an entity.

EPIDEMIC ALOPECIA IN SMALL AREAS

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LONDON

The nomenclature suggested by Bowen[1] in 1915 for these rare epidemics and his able summary and conclusions suggested that this contribution, based on somewhat similar facts, might be of interest to American dermatologists.

In the epidemic I describe, as in Bowen's and in those of Colcott Fox and H. Davis,[2] the outbreak occurred in an asylum for young girls. It is further of interest to note that in all three epidemics there appears to have been a "carrier" among the inmates of the institution for a period of months or years antecedent to the general outbreak. Again I have to record a similarity. The suspected source of contagion was a girl of 8. She had been a resident for fourteen months and throughout that time had suffered from typical alopecia areata (Bowen's report, p. 343). It had been noted by the institutional medical officer on her certificate of admission.

On April 27 the nurse noticed that the hair was coming out in quantities and that the bald alopecia patches were increasing in size. The case was referred to me by the medical officer on May 3 as suspected tinea tonsurans, and Figure 1 illustrates the naked eye appearance on that date. Two separate bald areas are here depicted, of which the posterior was one of several typical lesions of true alopecia areata. The anterior right frontal patch was much larger and less sharply defined. Moreover, the scalp was distinctly atrophic, and although neither pigment spots nor telangiectases were present, the general appearance was that of a roentgen-ray burn—a supposition which investigation has since confirmed. Numerous short atrophic and broken hairs and a few atypical stumps which epilated with varying resistance and which contained no mycelium on repeated examination were also present. I diagnosed the case as alopecia areata and old roentgen-ray atrophy. There was no evidence of tinea.

The suspicion of the latter disease in so large an institution (140 inmates) had already resulted in a general examination, and sixteen girls suspected of having the disease were submitted to me. The varying causation of bald patches in these sixteen girls lends color

1. Bowen: J. Cutan. Dis. **33**:351 (May) 1915.
2. Brit. J. Dermat. **26**:207-210, 1914.

and support to the French view that such "epidemics" must be discredited; that is, there were: gross traumatic scarring, three cases; pitted scarring of follicular type, four cases, and angular bald patches (Bowen type), nine cases.

Fig. 1.—Posterior circular patch of typical alopecia areata. Many others are not depicted. The hair is commencing to grow in all these patches. The anterior patch of irregular outline with an atrophic condition of the skin is an old roentgen-ray burn.

Figures 2 and 3 illustrate with fair accuracy the more or less angular and irregular areas which are the subject of interest in this paper.

and to which Bowen was the first to call attention. The patches were smooth, devoid of scales and showed no atrophy. Such stumps as were present were neither opaque nor atrophic, as in tinea tonsurans, nor did they in any way correspond to the classical description of those seen in true alopecia areata. No mycelium could be seen on repeated

Fig. 2.—A Bowen's patch, with oval outline and atypical stumps which cannot be seen in the illustration.

microscopic examination in potash, and after staining by the Gram method and other methods. Cultural experiments on Sabouraud's medium were also negative. While there was no apparent resemblance to these two well-known diseases, the patches seemed to coincide, so far

as description goes, with those reported by Bowen and by H. Davis. (Unfortunately neither of these papers was illustrated by photographs).

The cases photographed were exhibited at the May meeting of the Dermatological Section of the Royal Society of Medicine. Dr. H. Davis confirmed the identity of the type of patch with those prevailing in his epidemic in 1914, and he and other speakers were of the opinion that they must be regarded as artefacts produced by stratching and rubbing. I have kept these nine cases under careful observation for three months. During that time there has been little or no change in

Fig. 3.—A patch with angular outline but with the same stumps and characters as in Figure 2; possibly a slightly earlier stage of it.

the number or size of the areas of alopecia, nor have any fresh cases of the condition come to light.

On July 14, I again visited the institution, and was informed by the new matron that she had never, in the course of a twenty years' experience, seen such a prevalence of scurfy scalps. This remark caused me to question the children individually, and in each case it was admitted that there had been a good deal of itching. It was also elicited that every one of the nine had sought to relieve the itching by

continually rubbing and scratching—a fact which had been previously denied, presumably from fear of the departed superintendent. That rubbing and scratching may cause or assist atrophy and fracture of the hair is beyond doubt. Every dermatologist has seen frayed eyebrows in cases of localized pruritus, or the broken stumps in a patch

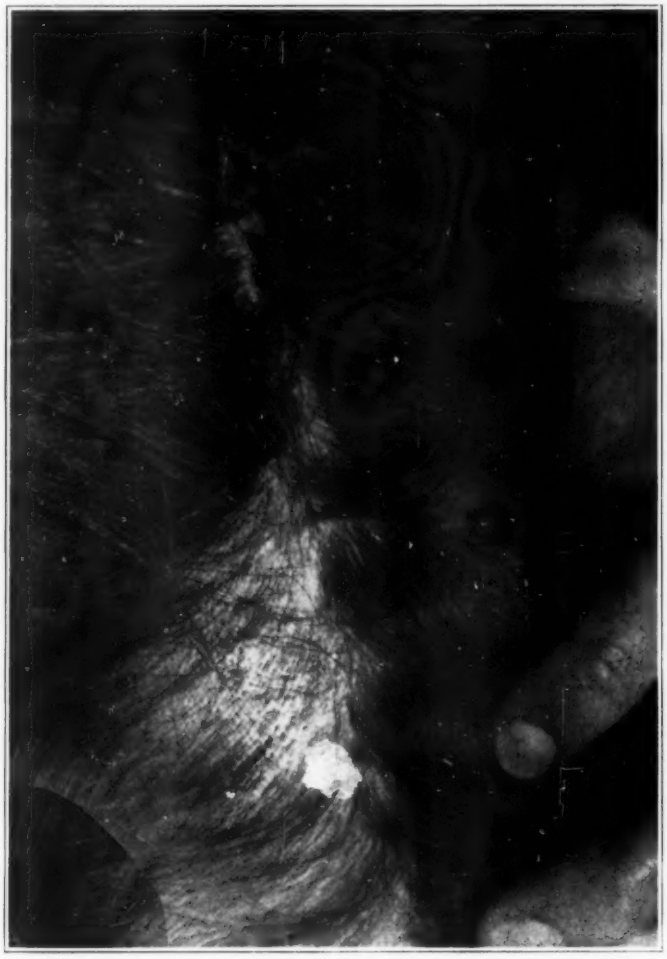

Fig. 4.—Probably the result of seborrheic alopecia and friction combined, as brittle easily epilated hairs, stumps of all lengths and much scurf are all present.

of lichenified neurodermite in the suboccipital region—both obviously caused by intensive rubbing.

In my opinion, therefore, the explanation of one at least of these epidemics of alopecia in schools and institutions is the frequent asso-

ciation of pityriasis or seborrhoea sicca of the more hirsute scalps of young girls in whom proper hygiene has been neglected, and who are perhaps more likely, temperamentally, to give way to the pruritus thus caused, than would be the case in boys. The occurrence of such pseudo-epidemics is far less frequent than outbreaks of ringworm, and the knowledge of them should make us careful in strictly basing our diagnosis on the certain information given by the miscroscope.

SIGNIFICANT DENTAL DEFECTS IN CONGENITAL SYPHILIS *

C. MORTON SMITH, M.D.

BOSTON

It is sometimes impossible to procure patients with typical dental changes when most desired. It is also difficult at times to demonstrate these changes, except to very small groups, especially if the child is nervous or excitable. Plaster casts of the mouth and teeth and photographs and lantern slides of these casts eliminate much of the uncertainty in teaching these conditions.

There are certain changes in the contour of the jaw—"square corners," etc., that have been pointed out as occurring more often in congenital syphilis. We are not at present concerned with these changes or the height and width of the palatine arch or other bony deformities that belong in the group with the square shaped head, undershot jaw, depressed nasal bridge, etc., that are found in a fairly large percentage of these congenitally syphilitic children.

The significant dental defects are found only in the permanent teeth. It is generally accepted that no characteristic changes occur in the first set. Dentition may be precocious in these infants, but is more often delayed. The teeth may be fragile or poorly placed and are prone to early decay. Dental defects due to congenital syphilis are almost entirely developmental in character, but may also show striations in the enamel due to disturbances in nutrition. Such nutritional changes are also seen in otherwise normal teeth, and may be due to any severe illness in infancy or early childhood. Rarely there is seen a characteristic mal-occlusion of the teeth of the first dentition due to failure in development of the alveolar processes and also in part to lack of development of the premaxillary bones. Usually this mal-occlusion does not show until the second dentition. As a rule, there is nothing diagnostic in the appearance of the deciduous teeth. It is usually possible to determine with the roentgen ray the presence or absence of tooth buds, and the character as well as the position of unerupted teeth can be determined. In this way the presence of hutchinsonian teeth can sometimes be made out before the teeth come through the gum.

We know the tremendous general advantages to the child of prenatal arsphenamin, particularly when given during the early months of pregnancy, but what its effect is on dental deformities time alone will show.

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* Read at the Forty-Sixth Annual Meeting of the American Dermatological Association, Ann Arbor, Mich., June 7-9, 1923.

I doubt that a diagnosis of congenital syphilis should be made on dental evidence alone. However, this is seldom necessary, for, with suspicion aroused by the teeth, other signs, symptoms or stigmas of the disease are usually discovered.

'Tis strange when one sly reason fills the heart,
How many honest ones will take its part.

Therefore we study the family history and check up the Wassermann reactions, look for nerve deafness and corneal opacities, thickened shins or symmetrical synovitis of the knees, etc., to confirm our suspicions.

As a rule, there are few failures to recognize true hutchinsonian teeth, but there are many central incisors that can only be classified as near hutchinsonian. These may have sides that are parallel, the cutting

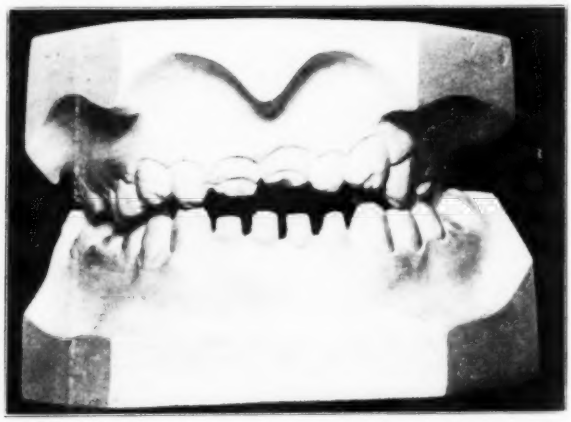

Fig. 1.—This cast shows the characteristic mal-occlusion, the notched upper central incisors (the enamel failing to cover the dentine), the widely separated infantile type of lower incisors and the characteristic deformity of the upper canines.

edge no wider than the base, and the edge may be beveled, notched or normal. Like the true type, they are likely to be separated and may diverge or converge. Mal-occlusion is less frequent in this group.

A normal incisor develops from three centers of ossification, and the edge on erupting shows the three serrations which in time wear away. The hutchinsonian tooth develops from two centers of ossification—hence the narrow edge and the actual or potential notch. Often only one of the upper central incisors shows the true hutchinsonian defect. As a rule, all the upper incisors in these cases are poorly developed or infantile in appearance, and these teeth are now so frequently replaced by porcelain jacket crowns or bridge work (the rest of the

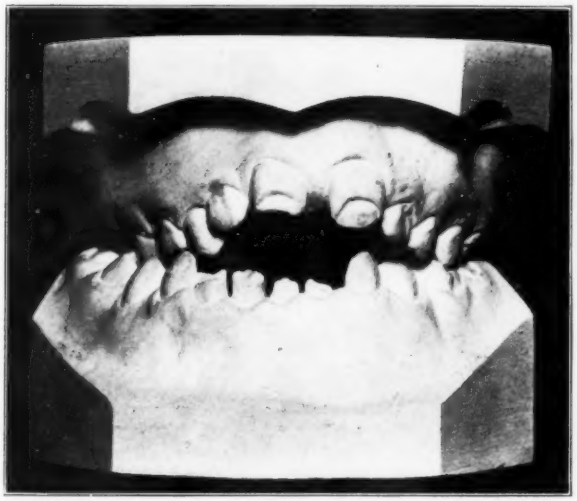

Fig. 2.—This cast shows marked mal-occlusion of the incisors, potentially notched widely separated upper incisors and widely separated lower incisors with irregularities in the enamel.

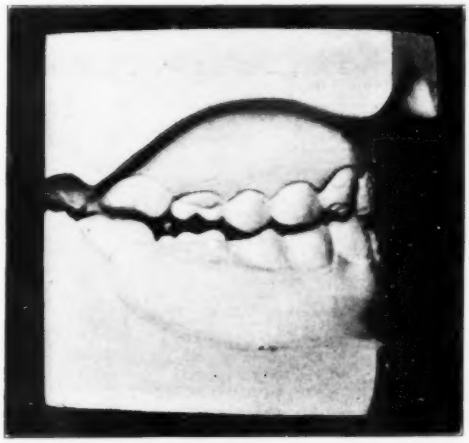

Fig. 3.—This view shows the mal-occlusion of the six-year molars, the characteristic changes in their enamel and the characteristic defect in the upper canine.

teeth being sound) that my suspicions are aroused unless there is a history of trauma. The work is usually done for cosmetic effect alone.

The next most frequent defect found is in the six year upper and lower molars. These teeth appear normal at the gum, but at the base-line of the cusps there is a definite shoulder formation, and the cusps occupy a smaller area, or there is a conical narrowing from this shoulder, and the cusps are smaller than normal, are friable, easily broken and prone to early decay. Many of these teeth show a grinding surface not over two thirds normal. The grouping or arrangement of these small cusps have suggested the term "mulberry" molar. They are also called "honeycomb" molars. There are syphilologists who believe these changes are both more frequent and more diagnostic of congenital

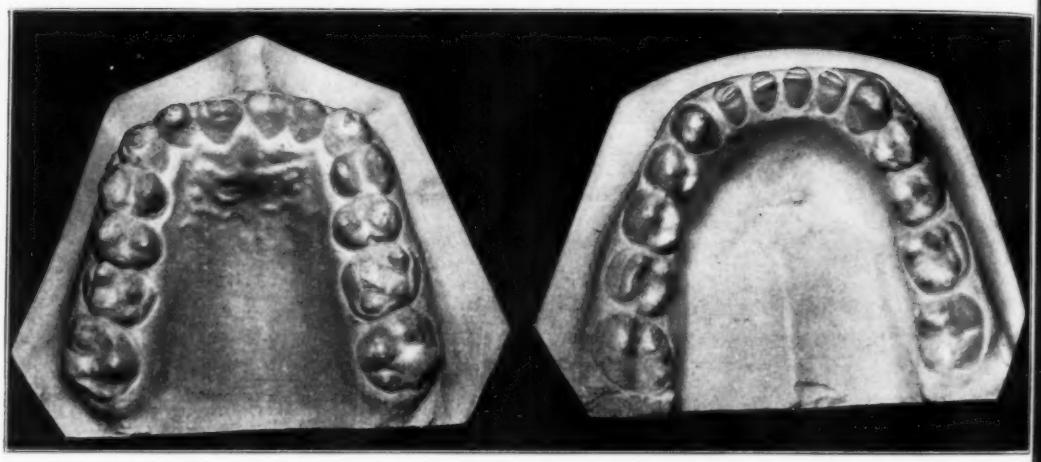

Fig. 4.—This cast illustrates the square-angled jaw, the hutchinsonian incisors, the characteristic six-year molars and the typical infantile widely separated lower incisors of a general oval type. The upper canines shows enamel defects on the cutting edge.

syphilis than the defects recorded by Dr. Hutchinson. In this opinion we cannot concur. Furthermore, the six-year molars are so frequently lost by early decay as to be a serious handicap to their usefulness in diagnosis. The presence of an extra cusp on these molars has no pathologic significance so far as I have been able to determine.

Often, but seldom without the presence of other syphilitic dental defects, the lower incisors are found to be poorly developed—widely separated; the enamel may be eroded, grooved or pitted. The normal incisor is like a chisel, and its width exceeds its depth. These teeth are round or oval, and the greatest diameter is anteroposteriorly. Hutchinson did not include the lower incisors in his description.

In some children there is a definite failure in development of the alveolar process of the lower jaw, which thus contributes a share in producing the mal-occlusion, while other children show an apparent attempt on the part of nature to overcome this defect and we see an elongation of the lower incisors. This may be due in part to the lack of resistance in biting.

The canines may show some of these same defects where the enamel fails to cover a spicule of dentine, or the enamel may be simply roughened or striated. The exposed dentine may break, and then we see an edge without enamel as is seen in true hutchinsonian teeth. Defects in the canines are least important as an aid to diagnosis, for if found at all they are usually in conjunction with other and more valuable syphilitic malformations.

Much can be done to improve the mal-occlusion, the contour of the jaws, and breadth of the palatine arch by careful regulating by a skilled orthodontist. The earlier this work is begun, the quicker and better the results will be. Few of our patients have been able to avail themselves of the benefits of orthodontia on account of the expense of materials alone. The same reason bars them from the dental clinics.

I wish to acknowledge my indebtedness to Dr. Blumenthal of the Harvard Dental School and the Dental Clinic of the Massachusetts General Hospital for general interest and assistance in this work for making the casts and photographs.

DISCUSSION

Dr. James Herbert Mitchell, Chicago: In 1920, I visited Sabouraud's clinic and heard him talk about the tubercle of Carabelli. He felt strongly about this and later wrote two papers on the subject. He held that this was a positive diagnostic sign and in some instances the only sign of the presence of congenital syphilis. You may remember the paper of Pautrier of Strasbourg which appeared later, and in which the author demonstrated this same tubercle in twenty-three cases of primary and secondary syphilis.

Dr. Walter J. Highman, New York City: I believed in hutchinsonian teeth until I received something of a rebuff about ten years ago. A boy of 15 presented himself who had an aortic insufficiency and a ++++ Wassermann reaction. We thought it well to investigate the brothers and sisters, and five were brought in. They all had typical hutchinsonian teeth. We thought possibly some other form of disturbance was responsible for this dental defect and went carefully into the early life of the children, with reference to their nutrition. In all the serum test was negative. We found that two of the children were adopted. Of course, they may have had syphilitic parents, but they had the hutchinsonian teeth the same as the children of the known syphilitic parents. This may not be definite, but I wonder whether every case of hutchinsonian teeth is due to syphilis, and whether proper controls have been made in the known syphilitic cases; also whether the so-called hutchinsonian teeth do not exist in cases of nonsyphilitic persons, and what the deduction may be in the family history I have just quoted.

Dr. C. Morton Smith, Boston: I have studied the extra cusps on the sixth year molars for some time and have found them just as often in children who showed no signs of congenital syphilis as in those with definite evidence.

As to Dr. Highman's remarks, I intended to cover that point in my statement that I thought it unsafe to make a diagnosis of congenital syphilis on dental defects alone. The majority of nonsysphilitic defects seem to be nutritional rather than developmental. There is a sharp normal edge, and the pitting and striations in the enamel are found well above the edge of a normal shaped tooth. Dental defects should arrest our attention, and their significance be determined by a careful history and complete examination, including blood, spinal fluid and roentgenograms of bones and viscera. Only in this way can the actual diagnostic value of dental defects be determined.

UNNA-JADASSOHN'S CUTIS VERTICIS GYRATA COMPARED WITH ALIBERT'S DERMATOLYSIS

REPORT OF A CASE

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AND
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Assistant to the Clinic
MADRID

History.—On Feb. 8, 1922, a patient, aged 20, a shepherd from Caceres, entered the Clinic of Dr. Sainz de Aja at the Hospital de San Juan de Dios. His father had died at the age of 42 from gangrene in a wound of the foot. His mother died of cancer of the breast. He had six brothers, four of whom were living and well. The others had died in infancy of unknown cause. The patient had measles in infancy. At the age of 7, he had had a gastric fever which had lasted about a fortnight. He had had no other illnesses. He had heard his parents say that he was born with a small lump on the right side of the forehead approximately halfway between the eyebrow and the hair. He remembered that as a child he had seen this lump, about the size of a large hazelnut, and he had the impression that the skin over it was loose.

Little by little the skin grew and became detached without causing any personal discomfort, until it reached the state noted at presentation.

Examination.—The skin was detached from its base from the upper lid of the right eye to the biauricular line. This looseness of the skin was almost exclusively limited to the right side of the cranium. It formed an enormous unilocular bag of skin, apparently normal, which fell forward and downward, covering the eye and reaching the zygoma. The skin overlapped itself giving the appearance of cerebral convolutions, particularly when one looked at the patient from the right side.

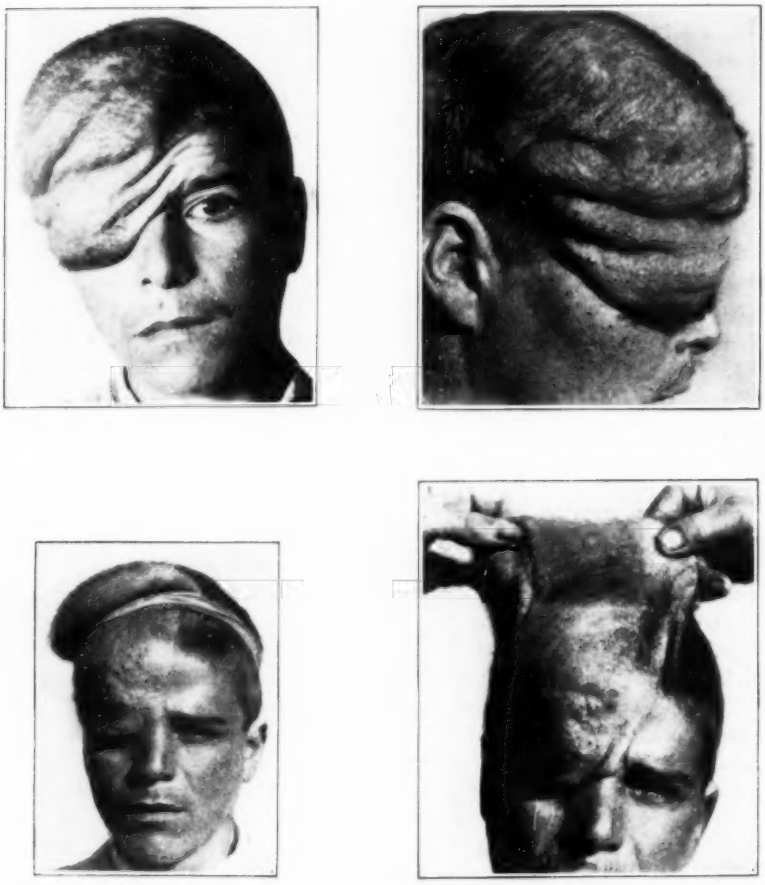
The skin forming the bag was slightly red and pigmented, and there was a certain degree of follicular hypertrophy. There was also an apparent diffuse alopecia—apparent because as the summit of the convolutions of the cerebrum represents an increase of convexity of the surface of the scalp, the hairs separate like a fan and the spaces between the same appear lighter to the eye of the examiner, giving a false impression of diffuse alopecia. The right eyebrow, on the contrary, showed a marked hypertrichosis.

In the left temporal region also there was looseness of the skin in an area about the size of a dollar, and in the occipital region another area about the size of a shilling. In both the skin was slightly reddened.

At first sight, the head of the patient had the well-known aspect of a cylindroma due to the cerebroid convolutions, but closer inspection and touching with the hand revealed that what appeared to be a tumor was in reality a bag of skin, movable, pliable and empty; what appeared to be convolutions were

nothing more than folds caused by the excess of skin; it might almost be said that the skin on this part had been formed for a much larger head. The skin could not be stretched at will, that is to say, it was not a hyperelastic skin. It was therefore not a case of cutix laxa.

The term "cutis laxa" is not an accurate name for all so-called cases, as the skin in some when stretched falls back into its normal state. For that reason, Unna's term "cutis hyperelastica," or more graphically speaking, "rub-



Cases of Alibert's dermatolysis

ber skin," is better. Excluding cylindroma and "cutis hyperelastica," our opinion is that this was a case of Alibert's dermatolysis.

Treatment.—The superflous skin was removed from the enormous bag by Dr. Olivares, Hospital Provincial, Madrid.

In going over the literature on dermatolysis and similar conditions we found one variety which appears to be a type of dermatolysis isolated as a new disease. We refer to the morbid entity described by

Jadassohn in 1906 and named by Unna in 1907 "cutis verticis gyrata," by Audry in 1909 "pachydermic occipitale vorticillée," and by Calle "cuir chevelu encephaloide."

COMMENT

In 1920, C. Adrian and A. Forster published in the *Archiv für Dermatologie und Syphilis* an extensive article on "Cutis Verticis Gyrata," to which I would refer principally in the following considerations. Adrian and Forster studied the causes that might cause this condition; they considered first acromegalia. Signs of acromegalia were presented in the cases of Sabat (1911), Leva (1915), Adrian (1916), and in the recent one of cutis gyrata frontalis described by Stuhmer (1922). There are many cases in which signs of acromegalia do not exist or are only slightly suggestive. Our case might be listed with these.

We have taken into consideration also that there is no foundation to the supposition that there is any incongruity between the growth of the skin and that of the bones. This hypothesis has been abandoned by all authors. In the present case, in those points in which the condition was in its initial state (temporal and occipital regions), the process developed purely in the skin.

Brachycephalia has been incriminated also as a predisposing cause. As in Germany the brachycephalic type predominates, we do not consider this hypothesis, evolved in that country, important. There is no doubt that cutis verticis gyrata is a much commoner condition than is generally believed; and, if it is found more frequently in Germany, it may be because in that country many men have the head shaved or the hair cut short, whereas in Spain it is not so easily noticed, as this custom has not been adopted.

Apart from the brachycephalia, it is quite logical that other cranial deformities may contribute to the development of this cutaneous affection. Our patient was dolichocephalic.

The theory of the origin of cutis verticis gyrata most generally accepted is the inflammatory theory described by Veress in 1908. According to Veress, cutis verticis gyrata follows chronic inflammations of the skin, and this opinion seems to be shared today by the majority of authors.

The traumatic origin is evident in various cases, as, for example, in the recent one of Stuhmer.[1] The traumatism does not exclude the inflammatory theory but rather supports it. In our case there was no history of traumatism—not even during birth—but there is no doubt that the initial lesions showed a slight hyperemia, thus supporting

1. Stuhmer: Dermat. Wchnschr. **18**:249 (March) 1922.

the Veress hypothesis, which makes it possible to consider the condition as an essential skin affection and to disregard all the more or less fantastic hypotheses that have been offered, particularly those that refer to an incongruity of growth between the skull and the scalp, or to the inheritance of a brachycephalic skull from the mother, for example, with a skull designed to cover a dolichocephalic skull inherited from the father.

Jadassohn indicates the possibility of classifying this condition among the nevi. We do not deny this interpretation for dermatolysis or for cutis verticis gyrata; on the contrary, we think it very reasonable. It is not to be denied that many cases of dermatolysis are difficult to differentiate from nevus mollusciformis, from fibroma molluscum and from Recklinghausen's disease, as in every pronounced case of the latter there are also determined elephantiasic formations of the type of the elephantiasis sacccularis.

CONCLUSIONS

1. The present case of Alibert's dermatolysis is reported because of the rarity of the disease.

2. We believe that cutis verticis gyrata and dermatolysis are one and the same process, cutis verticis gyrata representing the abortive type and the dermatolysis the condition in its greatest development, a phase that is only exceptionally attained.

3. With respect to the pathology of this cutaneous deformity, we are inclined to include it among the nevi.

A STUDY OF THE BLOOD URIC ACID IN DISEASES OF THE SKIN, WITH PARTICULAR REFERENCE TO ECZEMA AND PRURITUS

BASED ON AN ANALYSIS OF THE BLOOD OF 280 PATIENTS *

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AND
HERMAN BROWN, B.Sc.
Chemist of the Research Institute of Cutaneous Medicine
PHILADELPHIA

The causation of many diseases of the skin is involved in obscurity. It was in the hope of shedding light on some of the vexatious problems in etiology that the present work was undertaken.

The commonest skin disease encountered in practice is not an etiologic entity, but rather a type of cutaneous reaction which presents a clinical picture that has been catalogued under the name of eczema. There are some writers who, confronted with the perplexing difficulty of differentiating the characteristics of a dermatitis of external origin from one due to systemic causes, advocate the abandonment of the term eczema. We prefer to retain this designation but to confine it to an inflammation of the skin with certain characteristics not due to any external irritant. As soon as an eczematoid eruption is proved to be due to a local or external agent, it should cease to be regarded as an eczema. It is recognized, of course, that external factors may act as the exciting cause in the presence of some sensitizing systemic influence, and thus we may have eczemas due to the conjoint operation of external and internal causes.

There are a great many etiologic factors which are recognized as potential agencies in the production of an eczema. Among the most common may be classed focal infections, intestinal toxemia, protein sensitization, endocrine disorders, disturbances of the nervous system and metabolic errors.

The older writers, particularly among English and French dermatologists, laid considerable stress on the relationship of gout and eczema. The urinary analyses and the laboratory data on which the gouty origin of eczema was predicated, were regarded as so faulty and unscientific as to lead to a growing incredulity concerning the alleged relationship. Gout and the uric acid diathesis were, moreover, for

* Read at the Forty-Sixth Anuual Meeting of the American Dermatological Association, Ann Arbor, Mich., June 7-9, 1923.

many years invoked as the causes of a variety of diseases of the skin, some of which were known to have no relationship to these conditions. The incrimination of uric acid in the blood as a cause of eczema, however, is emphasized in many of the older textbooks on dermatology and in treatises of medicine. In this connection, it is interesting to refer to a statement made in the work of an eminent English dermatologist writing nearly forty years ago. Tilbury Fox [1] says:

> All disorders which are connected with the excreta in the system and their circulation throughout the blood current may furnish the exciting cause of eczema. This is a clinical fact of great importance. Given the tendency to eczema then the transmission of uric acid to the capillaries of the skin will so far derange as to aggravate certainly, and now and again excite, an eczematous eruption. This is what is meant by gouty eczema. By securing the absence of uric acid from the circulation the eczema will often disappear and always be more amenable to treatment. The passage of uric acid through the cutaneous capillaries of an eczematous subject acts as much the part of an irritant as do some externals. A gouty state of the blood may, therefore, excite and modify an eczema. Some cases as I now refer to sometimes exist off and on for years and are saturated with arsenic and mercurials but which are only relieved by recognizing the complicating item of the free production and circulation of uric acid, and instituting a regime calculated to arrest the continuance of these conditions.

The French school of dermatologists has always emphasized the internal origin of eczema. Bazin called eczema a diathetic eruption due to a condition which he designated "arthritism." Gaucher defined eczema as "an autogenous toxidermia due to an intoxication of the organism by nitrogenous extractive matter."

We cannot agree, of course, with such a conception of the unity of etiologic factors in eczema, but the thoughts expressed by these writers are of interest in connection with the theme presented in this paper.

There has been a tendency on the part of American writers on dermatology in recent years to pay scant or no attention to this old hypothesis. Four out of six relatively recent textbooks on dermatology published in the United States make no mention of uric acid as a factor in the causation of eczema.

In seeking light on the clinical aspect of the subject, the experience of internists as well as that of dermatologists is of value.

Garrod [2] writes:

> Eczema is a form of skin disease constantly met with in gouty individuals, either localized to a few spots in certain parts, as behind the ears, or extremely diffused over the body. As in the case of psoriasis, eczema may precede, accompany or alternate with articular gout; in many cases which have come

1. Fox, Tilbury: Diseases of the Skin, 1884.
2. Garrod: Gout, 1876.

under my notice, it was observed that when the succession of gouty attacks became interrupted for a time, there was a development of eczema to an extensive degree.

Lyman [3] says:

From the remotest antiquity a connection between gout and certain cutaneous diseases has been remarked by all clinical observers who have seen much of disorders that are experienced by the wealthier classes of society.

He further says: "Eczema is frequently witnessed among the children of gouty families."

Osler writes: "Garrod and others have called special attention to the frequent association of eczema with the gouty habit."

FINDINGS IN CHEMICAL STUDIES OF BLOOD

After our work had covered a reasonably large number of cases, we were struck by the considerable variation in the uric acid content of the blood in different persons and in different diseases.

TABLE 1.—*Normal Values on Human Blood in Milligrams Per 100 Cubic Centimeters*

Authority	Year	Nonprotein Nitrogen	Urea Nitrogen	Uric Acid	Sugar
Gettler and Baker	1916	30-45	15-25	1.0-3.5	50-120
Folin and Denis	1913	22-37	12-27	0.7-3.7	95-110
Greenwald	1915	30	.....	.....	.....
Bang	1915	19-39	6-20	.....	100-110
Taylor and Hutton	1915	25-28	.....	.....	50-150
McLean and Selling	1914	23-44	12-27	.....	.....
Meyers and Fine	1914	25-30	12-15	1.0-2.0	.....
Hohlweg	1915	.....	.....	.....	.....
Schwartz and McGill	1916	.....	10.8-25.2	.....	.....
Moose and Zondek	1915	.....	.....	2.5	.....
Lewis and Benedict	1915	.....	.....	.....	90-110
Michaelis	1914	.....	.....	.....	90-130
Strouse	1915	.....	....	.....	40-120

As a prerequisite to a proper comprehension of what constituted an excess of uric acid, it was necessary to ascertain the normal limits and particularly the maximum normal value. Herein, we encountered difficulties, as there does not appear to have been developed as yet a crystallized or generally accepted standard on this subject.

In 1913, Folin and Denis [4] wrote that normal uric acid in healthy adults would most often yield figures between 2 and 3 mg. per 100 c.c. but that strictly normal persons might show as low as 1 mg. and as high as 3.5 mg., the differences probably depending in part on dietary factors. Nine years later, Folin [5] writes: "The maximum normal figures for uric acid may be perhaps given as 3 mg. per 100 cubic centimeters."

3. Lyman, in Twentieth Century Practice of Medicine.
4. Folin and Denis: J. Biol. Chem. **14**:29, 1913.
5. Folin: Physiol. Rev. **2**:460 (July) 1922.

It is difficult to compare the figures of different investigators, for differences in method may be responsible at least in part for divergences in reported values.

In order to establish normal figures for ourselves, we examined the blood of seventeen presumably normal persons. It so happened that these were all young adults varying in age between 18 and 35 years. The uric acid content of the blood varied between 1.3 and 3.5 mg. and averaged 2.5 mg.

It appears to us that these controls studied by the chemical method which we employed are of greater importance in determining normal and abnormal values than the figures of many other investigators. We believe comparative studies made with the Folin [6] and with the Benedict methods will yield on the average 1 mg. less of uric acid per 100 cubic

TABLE 2.—*Blood Values from Normal Persons* *

No.	Name	Age	Weight in Kg.	Nonprotein Nitrogen	Urea Nitrogen	Sugar	Uric Acid	Creatinin
1	H. R.	24	70.0	30	13	104	2.0	1.4
2	J. K.	19	61.4	30	13	110	1.9	1.3
3	W. B.	21	61.4	26	13	110	1.8	1.4
4	H. B.	25	61.4	31	15	93	2.2	1.5
5	A. K.	30	86.4	34	17	109	3.5	1.4
6	B. F.	23	61.8	27	13	120	1.9	1.6
7	J. S.	..	....	31	10	66	3.1	1.3
8	J. T.	35	70.0	36	18	107	3.4	1.0
9	J. H.	22	66.8	35	12	101	2.3	1.5
10	Miss W.	22	56.4	35	10	96	2 8	1.1
11	Miss M.	18	59.1	36	14	99	2.8	...
12	Miss B.	18	57.7	35	13	105	3.2	...
13	Mrs. J.	26	56.8	31	14	100	1.8	1.3
14	Miss R.	25	54.5	37	16	103	3.1	1.5
15	Miss K.	..	....	38	18	110	3.0	1.2
16	J. M.	22	66.0	33	13	96	2.9	1.1
17	Miss S.	32	....	37	18	102	1.3	1.3

* Seventeen cases; ages 18 to 35; average uric acid, 2.5 mg.

centimeters of blood with the former than with the latter. We adopted the Folin method.

Of this number, one had 3.5 mg.; one, 3.4 mg.; one, 3.2 mg.; two, 3.1 mg.; and one, 3 mg.; the remaining eleven were below 3 mg., of whom five were below 2 mg.

INFLUENCE OF AGE ON THE URIC ACID CONTENT OF THE BLOOD

As pointed out by us in a previous paper,[7] age appears to exert a considerable influence on the amount of uric acid in the blood. The

6. In a private communication received by us in April, 1923, from Dr. Folin, he writes: "The upper normal values for uric acid are probably a little higher than we have thought."

7. Schamberg, J. F., and Brown, H.: The Relationship of Excess Uric Acid in the Blood to Eczema and Allied Dermatoses Based on an Analysis of over Two Hundred Cases, Arch. Int. Med. **32**:203 (Aug.) 1923.

highest uric acid values in our experience occur between the ages of 40 and 80. It is distinctly lower on an average in the ages between 15 and 40, although occasionally one may encounter high figures in youthful subjects.

But a comparison of Tables 3 and 4 reveals the fact that this rise with advancing decades is much more obvious in patients with eczema than among those with noneczematous dermatoses.

In Table 4, the uric acid figures are a little higher by the inclusion of pruritus than if these cases had been excluded. Nevertheless, there is distinctly less of an ascending scale in the uric acid values with the progress of age decades than is evidenced in the statistical figures on eczema. It will be observed that the great bulk of the eczema cases are included between the ages of 30 and 70, whereas with the noneczematous cases, the largest number comprise the age period from 20 to 60.

INFLUENCE OF SEX ON URIC ACID IN THE BLOOD

The average amount of uric acid in the blood of 167 male patients was 3.6 mg. per 100 cubic centimeters of blood; the average in 140 female patients was 2.7 mg.; among eczematous subjects, the average of ninety-five male patients was 3.9 mg. and of sixty-nine female patients 3 mg. Without speculating at length as to the cause of this striking discrepancy, we might say that weight and diet both in quality and quantity suggest themselves as factors of importance.

INFLUENCE OF DIET ON AMOUNT OF URIC ACID IN BLOOD

In a general way we received the impression that patients who partook of large quantities of meat, fish, fowl and other animal foods were more prone to give high uric acid values. One man who was the head of a chain of meat stores and who consumed 2 pounds each of beefsteak and of lamb chops a day, had 6.4 mg. uric acid per 100 cubic centimeters of blood. Several months later, under dietary treatment the amount declined to 4.9 mg. A young man of 20, with a uric acid content of 5.2 mg., after two months of dietary treatment had only 3.6 mg. per 100 cubic centimeters. Our oldest patient, a woman 84 years of age, a sparse eater, had only 1.8 mg. of uric acid per 100 cubic centimeters. The condition of the kidneys is a factor of great importance, but this will be referred to later.

URIC ACID FINDINGS IN VARIOUS DERMATOSES

In the course of our studies, our attention became more particularly concentrated on eczema and pruritus. We examined the blood of 161 patients with eczema. There can be no doubt that some of these were

TABLE 3.—*Age Incidence and Uric Acid in Eczematous Dermatoses in Milligrams Per 100 C.c. of Blood*

10-20	21-30	31-40	41-50	51-60	61-70	71-80
3.7	2.1	3.2	4.9	6.3	6.2	3.5
2.9	2.2	3.5	4.3	2.8	4.5	4.3
2.1	4.0	3.5	3.0	2.9	4.8	2.2
2.4	2.4	4.3	4.1	3.4	6.2	3.3
3.1	2.8	2.9	5.9	5.1	2.6	4.5
4.6	2.7	3.9	4.0	3.5	3.9	6.0
2.0	2.0	3.6	4.9	6.3	3.2	...
2.9	1.8	1.8	4.0	1.6	4.0	...
3.7	3.3	3.3	2.2	5.2	5.8	...
4.1	3.0	5.5	4.5	4.2	5.6	...
3.5	3.8	3.3	3.1	3.6	4.4	...
4.2	3.6	3.3	2.3	3.4	5.0	...
5.2	2.0	2.7	4.9	2.5	5.0	...
...	2.9	4.0	3.4	2.4	4.6	...
...	2.3	3.8	2.4	3.8	4.5	...
...	2.8	4.0	3.1	3.8	2.3	...
...	2.8	5.4	4.8	4.7	1.8	...
...	...	4.5	3.6	2.7	2.8	...
...	...	4.1	4.1	4.8	2.4	...
...	...	3.5	5.3	3.3	3.7	...
...	...	3.0	6.4	5.4	3.5	...
...	...	2.9	2.2	3.1	5.0	...
...	...	1.8	3.9	4.6	2.7	...
...	...	3.9	3.6	3.7	5.4	...
...	...	2.6	5.0	3.3	...	...
...	...	1.0	2.4	1.8	...	...
...	...	4.3	3.3	2.1	...	...
...	...	4.8	3.0	2.7	...	...
...	...	3.3	3.3	3.8	...	...
...	...	4.8	2.5	5.5	...	...
...	...	4.1	2.0	2.3	...	...
...	...	...	2.7	5.9	...	...
...	...	...	4.9	4.0	...	...
...	...	...	3.0	...	...	...
...	...	...	4.3	...	...	...
...	...	...	5.3	...	...	...
...	...	...	3.0	...	...	...
3.41	2.74	3.57	3.77	3.77	4.16	3.97

TABLE 4.—*Age Incidence and Uric Acid in Noneczematous Dermatoses in Milligrams Per 100 C.c. of Blood*

10-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90
2.5	2.6	2.3	3.0	3.4	2.3	4.7	1.8
3.3	3.3	3.2	2.8	2.7	3.0	3.3	...
...	3.0	2.8	2.3	2.6	2.1	3.2	...
...	1.7	2.4	4.5	2.7	5.2	...	...
...	2.6	2.8	4.0	4.7	3.0	...	...
...	3.1	2.5	3.2	3.9	3.5	...	...
...	4.0	6.6	3.1	4.3	1.5	...	...
...	3.5	2.8	2.6	2.5	...	...	...
...	3.8	2.6	2.2	3.3	...	...	...
...	4.1	2.8	4.6	3.1	...	...	...
...	3.0	2.2	2.8	3.8	...	...	...
...	3.0	2.2	2.3	3.1	...	...	...
...	2.7	5.0	2.9	2.4	...	...	...
...	3.5	2.9	4.3	2.8	...	...	...
...	2.3	4.7	2.2	4.0	...	...	...
...	3.7	2.2	2.2	4.2	...	...	...
...	3.3	3.1	3.2	3.6	...	...	...
...	2.8	4.8	2.3	3.6	...	...	...
...	2.3	5.0	1.9	3.6	...	...	...
...	2.2	2.5	2.4	2.5	...	...	...
...	3.5	2.4	4.1	4.3	...	...	...
...	3.3	2.1	2.8	2.4	...	...	...
...	...	5.8	...	1.4	...	...	...
...	...	2.3	...	3.7	...	...	...
...	...	3.4	...	4.0	...	...	...
...	...	4.7	...	...	...	...	...
...	...	2.5	...	...	...	...	...
...	...	2.4	...	...	...	...	...
...	...	4.4	...	...	...	...	...
...	...	2.0	...	...	...	...	...
2.9	2.07	3.2	3.0	3.3	2.9	3.7	1.8

not true eczema but rather forms of chronic dermatitis. We did not desire to exclude any cases that could be reasonably included in the category of eczema, for this might have to a certain extent vitiated our figures through selection. The average uric acid value of the 161 cases was 3.66 mg. per 100 cubic centimeters of blood. It might be contended that this average is not materially above the maximum normal value, and such a contention might be true. No one is in a position to state definitely what the maximum normal is. Most investigators believe it to be between 2 and 3 mg., but Folin believes that we must raise the figure somewhat higher. Although the average of seventeen presumably normal subjects, between the ages of 18 and 35, studied by us was only 2.5 mg., it is probable that 3.5 is not pathologic. If we set the figure even a litter higher and regard 3.7 mg. as the maximum normal, we find that seventy-one patients with eczema, or 44 per cent. of the entire number of eczematous subjects, exhibited in the

TABLE 5.—*Uric Acid Content in Various Dermatoses*

Disease	Number of Cases	Average Uric Acid per 100 C.c. of Blood, Mg.	Number of Cases Over 3.7 Mg.	Percentage of Cases Having More Than 3.7 Mg. Uric Acid
Eczema	161	3.66	71	44
Pruritus generalisata	10	3.78	5	50
Pruritus localisata	18	3.58	6	33
Psoriasis	24	3.19	5	20.8
Acne rosacea	7	2.9	1	0.48
Acne	6	2.6	0	0
Urticaria	5	3.3	2	12

blood quantities higher than this. The highest amount determined was 6.6 mg.

Another dermatosis in which high uric acid values were obtained was pruritus, particularly generalized types. The average of ten cases studied was 3.78 mg. per 100 cubic centimeters of blood. Five, or 50 per cent., of the cases exhibited higher figures than 3.7 mg. Eighteen cases of localized pruritus (including pruritus ani, vulvae, capitis, etc.) were examined. These yielded an average of 3.58 mg. Six patients, or 33 per cent., gave higher figures than 3.7 mg.

Twenty-four cases of psoriasis were studied by us, the average uric acid content of the blood being 3.19 mg. Of this number, five or 20.8 per cent. exceeded 3.7 mg.

There were seven cases of acne rosacea, the average uric acid being 2.9 mg. In one patient only did the uric acid exceed 3.7 mg.

Six cases of acne yielded an average blood uric acid of 2.6 mg.; none exceeded 3.7 mg.

There were five cases of urticaria, with an average of 3.3 mg. of uric acid. Two cases exceeded 3.7 mg.

There were many miscellaneous dermatoses, including lichen planus, dermatitis herpetiformis, xanthoma, etc., in the list subjected to blood

analysis, but their numbers were so limited as to render statistical presentation without value.

It is seen that 44 per cent. of the patients with eczema exhibited what we regard as an excess of uric acid in the blood, as compared with 20.8 per cent. of cases of psoriasis. Such a discrepancy might conceivably be due to differences in age, but compilation discloses the fact that the average age of our eczema patients was 44 years, and of our psoriasis patients 43 years.

SIGNIFICANCE OF AN EXCESS URIC ACID IN THE BLOOD

Besides the convalescing stage of pneumonia and in leukemia, there are two conditions in which a high blood uric acid occurs—gout and nephritis. In our previous communication on these chemical blood studies, we discussed the prevailing views on the subject.

Gout is virtually always associated with some renal disturbance, but disease of the kidney alone does not produce gout. Some other associated factor is essential.

In renal dysfunction, uric acid is, of all the nitrogenous bodies, the first to be held back, and therefore to accumulate in the blood. A later accentuation of renal disease would lead to a decreased elimination of urea and nonprotein nitrogen. Myers, Fine and Lough [8] state that the blood pictures in early interstitial nephritis and in gout are strikingly similar, particularly as regards the increase in uric acid. They suggest that a retention of uric acid may be earlier evidence of renal impairment of an interstitial type than the classic tests of albuminuria and cylindruria.

Folin,[9] commenting on increased uric acid in the blood in gout and in nephritis, says: "The characteristic and extraordinary feature of pure gout is that in most cases the uric acid is increased."

Creatinin.—It is interesting to note that in not a single patient was the creatinin in excess of the normal figure. Indeed, it varied within narrow limits, between 1 and 1.9 mg.

The low creatinin values are to be explained on the basis that our patients were not sick in the ordinary sense of the word, and retention of creatinin occurs only in fairly well advanced nephritis.

INTERPRETATION OF THE HYPERURICEMIA IN OUR CASES

A number of our patients presenting excessive uric acid values in the blood likewise showed an excess of nonprotein nitrogen and urea nitrogen. Many of them had albumin and hyaline casts in the urine.

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8. Myers, Victor C.; Fine, Morris S., and Lough, Walter G.: The Significance of the Uric Acid, Urea and Creatinin of the Blood in Nephritis, Arch. Int. Med. **17**:570 (April) 1916.

9. Folin: Physiol. Rev. **2**:460 (July) 1922.

There is every reason to believe that these patients were suffering from some grade of chronic interstitial nephritis. All were, however, ambulatory private patients and with few exceptions complained essentially of their cutaneous ills. Another group of patients, chiefly between the ages of 15 and 40, presented high uric acid value without corresponding excess of urea or nonprotein nitrogen and without pathologic urinary findings. What is the significance of the hyperuricemia in these cases? Does it indicate a form of hemic gout or interstitial nephritis in its incipiency? We are not bold enough to hazard an expression of opinion on this subject and prefer to leave the solution to more competent judgment.

SIGNIFICANCE OF HYPERURICACIDEMIA IN ECZEMA AND PRURITUS

The existence of an excess of uric acid in the blood in a considerable percentage of cases of eczema and pruritus has been demonstrated by us. This is a factual finding. The question of the significance of this association is one of interpretation. Does the hyperuricemia in most of these cases bear an etiologic relationship to the eczema or pruritus, or is it merely an accidental accompaniment? The discussion of this query should be approached in a dispassionate manner without any desire to prove a preconceived hypothesis.

The evidence necessary to prove a relationship between hyperuricemia and certain dermatoses must, it appears to us, depend on a demonstration of the following propositions. First, it must be proved that in a sufficient percentage of cases there is actually an excess of the salts of uric acid in the blood. Second, it must be shown that this percentage is considerably greater than in other diseases and in dermatoses in which no such relationship is suggested. Third, it must be established that the association is not merely an accidental one, and that there is a causative or aggravating influence of the uric acid on the dermatosis in question.

While there still exists some difference of opinion as to what constitutes a pathologic amount of uric acid in the blood, we believe that we have adopted a sufficiently high maximum normal—namely, 3.7 mg. per 100 cubic centimeters of blood (by the Folin and Wu method).

Feinblatt,[10] in a routine analysis of the blood of 1,500 patients in the wards of the Long Island College Hospital, found forty-seven patients who exhibited uricacidemia without concurrent retention of urea or creatinin. He regarded 3.5 mg. uric acid per 100 cubic centimeters of blood, urea nitrogen 20 mg., and creatinin 2 mg., as beginning pathologic values.

10. Feinblatt, H. M.: Uricacidemia, Arch. Int. Med. **31**:758 (May) 1923.

Below is appended a list of sixty-six patients suffering from eczema, all of whom had in the blood 4 or more milligrams per 100 cubic centimeters. Of this number, forty-eight had less than 20 mg. of urea nitrogen and less than 2 mg. of creatinin. If we include all cases of

TABLE 6.—*Cases of Eczema with High Uric Acid Values in Blood*

			Milligrams per 100 C.c. of Blood		
	Sex	Age	Uric Acid	Urea Nitrogen	Nonprotein Nitrogen
H. M. S.	M	32	4.0	21	40
I. L. L.	M	67	4.5	18	37
H. M.	M	31	5.4	23	44
R. J. S.	F	59	4.6	15	32
D. H. F.	M	36	4.5	16	35
J. R.	M	20	4.1	14	30
J. G. H.	M	40	4.1	16	34
H. P. G.	M	42	4.9	17	35
J. N.	M	18	4.2	17	36
L. K.	F	49	4.3	15	35
W. J. G.	M	20	5.2	17	33
J. E. K.	M	51	5.5	16	35
E. W. C.	M	66	5.4	10	30
L. H.	M	51	5.9	17	36
M. C. L.	F	54	4.0	19	37
C. C. F. B.	M	78	4.5	22	42
A. R. G.	M	69	5.0	15	32
F. K.	F	35	4.3	11	27
J. M.	F	40	4.8	18	34
C. G.	M	40	4.8	14	29
L. S. G.	M	35	4.1	13	28
W. P. W.	M	78	6.0	19	40
J. W. D.	F	66	6.2	21	44
Z. B.	F	42	5.3	..	35
W. B.	M	67	4.0	15	35
A. S.	M	43	4.9	14	30
H. DuB.	M	41	4.8	14	33
D. P.	M	47	4.1	20	43
P. B.	M	50	5.3	28	46
Wm. K.	M	42	6.4	16	40
Wm. S.	M	17	4.6	18	35
E. C.	F	66	5.8	15	34
F. G.	F	58	4.7	14	30
J. M. S.	F	62	5.6	15	32
H. W.	M	69	4.4	20	39
K. B.	M	22	5.4	13	30
D. H.	M	54	4.8	14	30
A. McL.	M	40	5.5	13	32
S. H. H.	M	45	5.0	18	38
W. S. G.	F	55	5.4	16	35
E. J. L.	M	67	6.0	18	38
T. B. G.	M	70	5.0	..	35
A. B.	M	38	4.0	17	35
J. F. K.	M	63	4.6	19	38
J. E. F.	M	35	5.0	16	36
P. F. H.	M	60	3.5	26	49
Mr. W.	M	59	6.3	21	47
L. S.	M	43	4.1	16	31
H. W. H.	M	47	5.9	20	40
H. S. R.	M	62	4.5	18	37
M. McH.	M	68	4.8	15	46
K. S. G.	F	44	4.0	13	34
M. B.	F	55	5.1	20	44
H. C. E.	M	50	4.9	25	45
I. F.	M	49	4.0	21	46
H. G.	M	38	6.6	21	42
M. H.	M	60	6.3	21	43
D. L.	M	56	5.2	26	52
A. W.	M	42	4.9	20	46
Mrs. K.	F	30	4.0	21	46
E. S. C.	M	47	4.5	19	42
C. S.	M	65	6.2	15	33
D. W. C.	M	60	4.0	15	40
I. P. H.	M	39	4.3	16	36
P. R.	M	78	4.3	13	28
H. B. B.	F	48	4.3	11	36

eczema having a uric acid content of 3.5 mg. or over, the number is increased to sixty-nine.

It might be urged that there is no more reason to allege a causative relationship between hyperuricemia and eczema than between hyperuricemia and psoriasis, even though the latter association is much less frequent. Bearing on this question, we might state that Schamberg and Raiziss in an unpublished investigation on the urine in psoriasitic patients a few years ago found that the purin metabolism was normal. Furthermore, psoriasis is a distinct clinical entity, and we have every right to assume that the essential cause in all the cases is the same. This is not true of eczema. Virtually all of the cases of psoriasis included in the present study that presented high uric acid values in the blood likewise had pathologic figures for nonprotein nitrogen and for urea, and many of them had urinary findings indicative of a chronic interstitial nephritis. This was likewise true of a proportion of cases of eczema, but in a considerable group the nonprotein nitrogen and urea nitrogen were not above normal, and the urine exhibited no abnormalities.

It is, it appears to us, pertinent to call attention to a comparison of the blood analyses in Feinblatt's cases and in our own. Among 1,500 ward patients forty-seven were found by him with a uricacidemia (3.5 mg.) without associated rise of urea nitrogen or creatinin. Using the same method of analysis (Folin and Wu), we found in 161 cases of eczema sixty-nine patients coming within this group. This discrepancy is most striking and persuades us to believe that an excess of uric acid in the blood unaccompanied by a rise in the other nitrogenous constituents is far more common in patients with eczema and pruritus than among patients ill of various diseases.

While statistical evidence in a discussion of this kind is valuable, the results of treatment based on an assumption of a causative relationship between hyperuricemia and eczema are more to the point. These results will be discussed.

CHEMICAL METHODS EMPLOYED

All of the blood specimens were secured several hours after a light breakfast and examined on the same day. The method employed for uric acid determination was that elaborated by Folin and Wu in 1919. The technic is set forth in detail in our first communication on this subject.

URIC ACID IN THE EPIDERMAL SCALES

In order to determine whether there was any relationship between the amount of uric acid contained in the scales of exfoliative dermatoses and the amount in the blood of the patient, scales from several cases were examined by us.

The blood analysis of uric acid in two cases of psoriasis and one of exfoliative dermatitis were, respectively, 2, 3.6 and 4.8 mg. per 100 cubic centimeters. The corresponding amounts of uric acid in the scales were 0, 7.2 and 10 mg. per 100 grams of scales. It will be seen that the uric acid in the scales was approximately twice that in the blood in the latter two cases. It must be admitted, however, that the analysis of scales is less accurate than that of the blood. One case of pemphigus foliaceus showed about the same amount of uric acid in the crusts and the epidermal exfoliation as in the blood.

The variation in the amount of uric acid per 100 grams of scales suggests that the assumption of Tilbury Fox made nearly forty years ago may be correct—namely, that salts of uric acid may find their way through the walls of the cutaneous capillaries. In the few examinations made by us there appeared to be some parallelism between the blood uric acid and the uric acid values in the scales.

RESULTS OF A PURIN-FREE REGIME

All of our patients exhibiting an excess of blood uric acid were placed on a diet excluding meat, fish, fowl, internal organs and meat soups. Milk and eggs were allowed.

Our results in the main have been highly gratifying. A number of patients with cases of rebellious eczema and pruritus resisting treatment elsewhere have been either cured or rendered entirely comfortable. We have secured better and more rapid results in the treatment of these types of cases than ever before in our experience.

We must admit, however, having had some disappointing failures, The fact must be distinctly impressed that an eczema associated with a hyperuricemia may still be due to some other cause. Certain cases in which we expected improvement under dietary treatment failed to show it, but our percentage of successful results in previously refractory subjects was high. Whether some of the failures were due to lack of cooperation as regards diet on the part of the patient, we are not definitely able to say, but we suspected such a cause in certain cases. Moreover, in several such patients a second blood examination failed to reveal a decrease in the uric acid values. Even in some patients who claimed to have lived up to the diet, no decrease in uric acid was observable. As stated elsewhere, the retention of uric acid in the blood is due to failure of the kidneys to eliminate this product, and a correction of this condition would obviously be more difficult in some cases than in others. It is quite possible that some other undetermined nitrogenous substance in the blood may be a factor in some of the cases of eczema and pruritus. In Case 5, the uric acid was perhaps not above normal, but purin producing foods were proved to cause itching, and abstention therefrom gave relief.

It would be absurd to contend that all cases of eczema and pruritus were due to an ecess of uric acid in the blood. Both conditions are due to a great variety of causes. We believe, however, that uric acid retention is a frequent cause and that this factor is particularly operative in persons over the age of 40. We have had three patients under 20 years of age who had high uric acid and who were cured or virtually so by an appropriate dietary regimen. We have had the impression that the underlying cause of the retention is largely renal; nevertheless, we had quite a few cases in which urine was negative, the blood pressure normal and the nitrogenous constituents of the blood other than uric acid, normal. Whether these patients suffer from a gouty or uric acid tendency, we are unable to say.

REPORT OF CASES

We present herewith a few brief histories of cases illustrative of the effects of dietary treatment. As all of the subjects were private patients and it was our duty to cure them as quickly as possible, local measures were likewise employed.

CASE 1.—R. G. W., aged 57, had had an attack of eczema in 1899. The present outbreak was of ten weeks' duration. The patient was so miserable that he suspended important work in South Carolina and came North. Widespread erythematous eczema on hands, arms, scrotum, thighs and legs was present. There were extensive excoriations from scratching. The patient was highly nervous. Itching was violent, interfering with sleep and rest. The urinary examination was negative. Chemical examination of blood gave these results: uric acid, 6.3 mg. per 100 cubic centimeters; nonprotein nitrogen, 47; urea nitrogen, 21; sugar, 80; creatinin, 1.7.

The patient was placed on a diet eliminating meat, fish, fowl, internal organs and meat soups. Various local medicaments were applied. He returned to his home in comfortable condition in six weeks and gradually became entirely well. One year later he wrote that he was completely well and had had no relapse, but was still on the diet.

CASE 2.—Mrs. J. M. S., aged 62, of spare build, had an eczema which began on the leg in November, 1922. It disappeared under treatment, but reappeared in July, 1922, and spread over the greater part of the body. When she first presented herself for treatment she exhibited markedly inflammatory large reddened patches, with some scaling over the greater part of the legs and arms with involvement of some areas on the body. Itching was violent.

The specific gravity of the urine was 1.021; there was no albumin, sugar or casts. The blood pressure was 160. Blood analysis revealed: uric acid, 5.6 mg.; nonprotein nitrogen, 32 mg.; urea nitrogen, 15 mg.; sugar, 130 mg.; and creatinin, 1.3 mg.

She was placed on a purin-free diet and local measures, and immediately exhibited marked improvement. Progressive improvement occurred, and she was discharged cured. A letter received in May, 1923, stated that she was entirely well.

Case 3.—J. N., aged 18, had had eczema intermittently since infancy. The patient was the son of a physician and had been constantly under treatment of one kind or another. He was obliged to leave school on the western coast and seek treatment on account of the violent itching. Examination revealed a widespread excoriated erythematous eczema on the face, scalp, arms and body. Roentgen-ray and many kinds of treatment had been tried, with no relief. Urinalysis was negative. Blood analysis yielded the following figures: uric acid, 4.2 mg.; nonprotein nitrogen, 36 mg.; urea nitrogen, 17; sugar, 90 mg. He was placed on a purin-free diet, and in a few days exhibited a perceptible improvement. In three weeks he was so nearly well that he was able to return to his home across the continent.

He said that he was always worse while at boarding school and better when at home, and that the dietary at school included large amounts of meat foods. A letter received from his father in May, 1923, expressed great delight with his condition. He was not completely cured but was so greatly improved that he had returned to school.

Case 4.—A. McL., aged 39, on presentation had a fiery red weeping eczema of the face, with itching so violent that sleep was seriously disturbed. He had had the condition for nine months and had received all kinds of treatment. The condition was first treated by us with the Roentgen-ray and local measures, but nothing gave relief. He abandoned our treatment and sought help elsewhere. He later returned unimproved, and we then examined his blood. Analysis revealed: uric acid, 5.5 mg.; nonprotein nitrogen, 32 mg.; urea nitrogen, 13 mg.; sugar, 101 mg.; creatinin, 1.3 mg.; urine, negative; blood pressure, 135.

After the institution of a purin-free diet, improvement quickly set in, and his skin tolerated remedies that previously could not be used. A recent letter states that the eruption has disappeared and itching has completely subsided.

Case 5.—J. F., aged 63, weighing 175 pounds (79.3 kg.), had an eruption on his hands for eight or nine years and on the legs for about one month, the eruption improving during the summer months. The hands exhibited dry, scaly and moderately inflamed patches. The skin of the legs was harsh, dry and excoriated from scratching. The blood pressure was 150. The blood examination gave these results: uric acid, 4.6 mg.; nonprotein nitrogen, 38 mg.; urea nitrogen, 19 mg.; sugar, 104 mg. The patient was placed on a purin-free diet and local treatment. In ten days he reported marked improvement. About four months later, a second blood analysis was made which showed a lowering of the uric acid to 3.6 mg. per 100 cubic centimeters of blood.

The patient is now entirely free from itching and eruption.

Case 6.—P. F. H., aged 60, had suffered from a generalized itching of the body for some years. He received temporary relief from intragluteal injections of sterilized milk, but in a few days the itching would return. The pruritus was so bad as to make the patient miserable day and night. Blood analysis revealed: uric acid, 3.5 mg.; nonprotein nitrogen, 49 mg.; urea nitrogen, 26.; sugar, 117 mg.; creatinin, 1.5 mg. Although the uric acid was not excessively high, the other nitrogenous constituents were distinctly above normal. He was placed on a purin-free diet, and in a few days was completely relieved from his itching. On two or three occasions he strayed from his diet and partook of meat. On each occasion there was a marked attack of itching, in one case within three or four hours after ingesting the forbidden food. He remains entirely comfortable as long as he adheres to his diet.

CONCLUSIONS

1. In an analysis of the nitrogenous constituents of the blood of 280 patients suffering from cutaneous diseases, striking variations in the uric acid content were observed.

2. Excessive uric acid values were found chiefly in eczema and in pruritus, although they were also occasionally noted in certain other dermatoses.

3. There is no unanimity of opinion at the present time as to what actually constitutes the maximum normal for uric acid in the blood. Present indications are that by the Folin-Wu method, it is somewhere in the neighborhood of from 3.5 to 3.7 mg. per 100 cubic centimeters of blood.

4. Taking the higher of these figures, we found that 44 per cent. of our cases of eczema exhibited more than this amount.

5. In psoriasis, urticaria, acne rosacea, acne and other diseases of the skin, the percentage of cases of hyperuricacidemia was strikingly less than in eczema.

6. In interpreting the significance of the association of hyperuricacidemia and eczema, it is realized that in many cases the former is perhaps merely an accidental accompaniment of the latter. In the majority of patients, however, we believe that a causal relationship exists.

7. Both internists and dermatologists have for many years past, on clinical grounds, alleged such a relationship.

8. We have found that the recognition of hyperuricacidemia as a factor in eczema has, through the institution of a proper dietary regimen, permitted the cure of a number of previously refractory cases.

9. The question of the pathogenesis of the uric acid in the blood of our patients and its relationship to nephritis or gout, is a problem still awaiting solution.

DISCUSSION

DR. WALTER J. HIGHMAN, New York: It is remarkable that a group of cases under the head of eczema can be isolated as Dr. Schamberg has isolated them, in all of which there was a disturbance of metabolism. This was explained years ago in Great Britain, by the gouty diathesis and that those of us in New York who were associated with Dr. Johnston have had in mind for several years. I hope that Dr. Schamberg's conclusions will be as positive as they seem to be in connection with this syndrome, because I think in those vague types in which it is so hard to determine the external cause and so baffling to find an internal disturbance Dr. Schamberg's conclusions will be of great assistance. I look forward with great eagerness to his further development.

DR. J. M. H. MACLEOD, London: On our side we have great difficulty in carrying out observations of this kind. At the moment the number of our physiologic chemists and facilities is comparatively few and studies of this sort are impossible, but I think such studies are valuable. Such examinations will

enable us far better to come to correct conclusions concerning the internal conditions that may have had an important position in the causation of eczema, and they may demonstrate that an increased uric acid content is a factor.

Dr. Samuel E. Sweitzer, Minneapolis: I should like to have Dr. Schamberg give us the dietary regimen of his patients. I have changed the diet to one similar to that Dr. Schamberg described and would like to know what kind he uses in the treatment of this condition.

Dr. Sigmund Pollitzer, New York: I think it is an important matter that the question of metabolism in what we call eczema be investigated by the latest scientific methods. There has been a tremendous swing in the views of the profession regarding the disorder in question. Fifty years ago eczema in most countries of the world was looked on as a manifestation of some internal disorder. Under the influence of German and Austrian dermatologists we got away from that idea, and the tendency toward the injection of internal causes as a factor was tremendously advanced with the introduction of the bacteriological era. There was a time when eczemas of all sorts were regarded as necessarily of external origin. This view prevailed most of all in Germany. The French have always entertained the idea of a diathesis, and this influenced the English to some extent. The question, however, has not been really scientifically investigated. We have of late years gradually been getting away from the extreme externalist point of view, and I think a study such as Dr. Schamberg has undertaken ought to yield valuable results either in the confirmation or rejection of the idea of a relation between this disease and disturbed metabolism. His work may result in the separation of definite clinical types of this protean disease, depending on various etiologic factors.

I want to ask Dr. Schamberg a question. We know there are diurnal fluctuations in the constituents of the blood depending on diet. It is necessary, therefore, that examinations be made under the same conditions and, if that is possible, only when the patient is fasting. I wish to know whether in these cases the blood was taken before breakfast.

Dr. Harry G. Irvine, Minneapolis: I would like to know whether the patients that have the high uric acid content suggested this from the diet, or whether one would have to make the blood study in order to determine it.

Dr. Jay Frank Schamberg, Philadelphia: Replying to Dr. Pollitzer I would say that the blood specimens were taken as a routine about three hours after a light breakfast, and it is the opinion of physiologic chemists that this is a proper procedure.

I am sorry that I could not show the slide demonstrating a comparison of eczema with other dermatoses. There were 161 cases of eczema, and of this number 44 per cent. showed a uric acid excess. There were twenty-three patients with psoriasis, and 20 per cent. showed excess of uric acid; in practically all of the psoriasis cases there was a high nonprotein acid and urea content. In some unpublished work done by Dr. Raiziss and myself some years ago on the purin metabolism in psoriasis, we found no relation between gout and psoriasis. In our present study, in localized pruritus we found about 33 per cent. of the cases with a pathologic uric acid. In seven cases of acne rosacea the percentage was less than 0.5 per cent. In acne there was no excess. In urticaria there was 12 per cent., etc.

I would not have you think that it is our opinion that uric acid is the cause of eczema. Nothing is further from our mind. Eczema is due to many causes,

but in persons between 40 and 60 the uric acid content of the blood is of significance. As Tilbury Fox suggested, the urates may make their way into the skin and set up an irritation there.

In several cases we made a determination of the uric acid in the scales thrown off the skin. While the method is less accurate than the demonstration of blood uric acid, the figures were suggestive. There appeared to be a relationship between blood content and the scale content, but the aggregate in the scales was higher. The type of eczema in the main associated with excess of blood uric acid was the erythematous form, although the vesicular and other types were also represented among our patients. While diet appeared to influence the uric acid findings, it was not the most important factor. We suspect the renal function to be the influence most vitally concerned. The diet we placed our patients on was simple: briefly, it excluded meat, fish, fowl, internal organs and soups made with meat. Eggs and milk are allowed as they yield no purin products.

Our results in the treatment of eczema in patients with high blood uric acid with a dietary regimen and appropriate local remedies have been distinctly more satisfactory than before we employed such measures. Some of our most striking successes were in cases of generalized pruritus. This treatment in eczema will not always be successful, as a high blood uric acid may at times be an accidental accompaniment of the condition, and not the cause.

THE WASSERMANN TEST*

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AND

DAVIS STERN, M.D.

MINNEAPOLIS

The following study was undertaken primarily to check the work and results in the laboratory of the Division of Venereal Diseases of the Minnesota State Board of Health. Because we believe that a state laboratory has a grave responsibility in undertaking the Wassermann test on the results of which treatment in hundreds of cases is undertaken or discontinued, every effort is made not only to rule out errors of technic but also to rule out wrong interpretation of results. We realize that many physicians still are inclined to diagnose positively and to treat patients on the basis of a single positive Wassermann test; consequently, we have urged repeated tests. Some physicians seem inclined to diagnose syphilis even on a partly positive test. To prevent this the state laboratory reports only completely positive or negative tests; all partly positive tests are reported "doubtful" and accompanied by a request for further specimens. An effort is made to check all results with the clinical findings. This is done by requiring all physicians to return to the laboratory a so-called "follow-up slip" giving the clinical diagnosis and a statement as to whether the result agrees with clinical findings or not. When the follow-up slip shows a disagreement, an effort is made to secure further specimens so that we may either confirm our findings or check our mistakes. Most of the physicians of the state realize that this care on their part helps to secure better service, and we have had splendid cooperation. Many

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* Read at the Forty-Sixth Annual Meeting of the American Dermatological Association, Ann Arbor, Mich., June 7-9, 1923.

* From the Division of Venereal Diseases, Minnesota State Board of Health, and the University of Minnesota Medical School.

* All Kolmer and "routine" tests were made in the Division's laboratory. "Cholesterin" tests were routine tests run in the laboratory of the Medical School as recorded on either dispensary or hospital charts. The 5,162 specimens studied were routine specimens sent in from over the state during the fall of 1922. The serums from pregnant women were from cases registered either in the University dispensary or hospital. The study on known negative or positive cases with serums taken fresh daily for several consecutive days or the same specimen tested daily for several consecutive days was made possible by cooperation of the physicians at state institutions.

physicians and clinics sending in a large number of specimens have gone to a great deal of trouble to send us repeated specimens and to give us detailed clinical findings and results of treatment.

Believing that more harm results from false positive reactions than from failure to secure positive reactions, we have used a conservative technic; consequently our routine test has been with either an "acetone-insoluble" or a straight alcoholic extract of human heart antigen. In the routine test used in this study, 10 per cent. alcoholic extract of human heart was employed.

The studies published by Kolmer [1] and the report of Kilduff [2] led us to check a large number of our routine tests with the Kolmer test. Consequently, we present a study of 5,162 tests, in all of which some clinical follow-up is recorded. In 4,733 tests (91.5 per cent.) both tests agreed, in 429 tests (8.5 per cent.) there was disagreement. Where both tests agreed, there was also clinical agreement. Of these 4,733 tests, 3,957 were negative, 734 were positive, thirty-nine were doubtful and three gave anticomplementary results.

TABLE 1.—*Variation Between Kolmer and Routine Tests*

Specimens	Kolmer	Routine
211	Positive	Negative
43	Positive	Doubtful
108	Doubtful	Negative
42	Negative	Positive
25	Negative	Doubtful

Table 1 indicates the variation in the 429 tests. Of the 211 tests in which Kolmer's test was positive and routine tests were negative, the clinical follow-up indicated 187 patients under treatment, three primary lesions, thirteen cases of cerebrospinal syphilis, five patients under observation for syphilis and three with no history or clinical symptoms of syphilis. Of the forty-three specimens in which Kolmer's test was positive and in which routine tests were doubtful, the clinical follow-up indicated thirty-two cases of clinical or treated syphilis, seven of tabes dorsalis, two primary lesions, and two with no clinical symptoms of syphilis.

1. Kolmer, J. A., and Associates: Studies in the Standardization of the Wassermann Reaction, a series of thirty-two papers published in Am. J. Syph., 1919 to 1921. J. A. Kolmer: New Complement Fixation Test for Syphilis Based on the Results of Studies in the Standardization of Technic, Am. J. Syph. **6**:82 (June) 1922; Quantitative Fixation Test in Syphilis, ibid. A Superior Antigen for Complement Fixation Test in Syphilis, ibid. **6**:74 (June) 1922; ibid. **6**:64 (Jan.) 1922.

2. Kilduff, R. A.: The Kolmer Modification of the Wassermann Test, Arch. Dermat. & Syph. **6**:709 (Dec.) 1922.

Of the 108 specimens in which Kolmer's test was doubtful and the routine tests negative, the clinical follow-up indicated ninety-seven treated cases, four cases of primary lesions, three in which the diagnosis was questionable, three cases of tabes dorsalis and one not clinical syphilis.

Of the forty-two specimens in which the Kolmer test was negative and the routine test positive, the clinical follow-up indicated eleven cases of pulmonary tuberculosis, thirteen pregnancies with no symptoms of syphilis, four diagnoses questionable, three cases diagnosed syphilis, two cases of encephalitis, one case of Vincent's angina, one case of eczema and seven in which there were no symptoms of syphilis.

Of the twenty-five specimens in which the Kolmer test was negative and the routine test doubtful, the clinical follow-up indicated nine cases of pulmonary tuberculosis, six pregnancies with no symptoms of syphilis, one case of encephalitis, one of pityriasis rosea, one of syphilis, and seven in which there were no symptoms of syphilis.

SUMMARY

The Kolmer test was positive in 254 instances. Of these cases 244 were reported as clinical cases of syphilis or cases under treatment, five under observation for syphilis and five as negative for syphilis. It should be remembered that these tests were routine tests made at a time when the laboratory was averaging about 125 tests a day, so that a possibility of technical error must be considered. It must also be remembered that these clinical findings are reported by physicians working under difficulties in some cases and with all the advantages in others. Consequently, unless we knew that these five cases had been expertly worked up from the clinical side, it would hardly be fair to say these were false positives. Out of a total of 988 positives in this series with the Kolmer test, only five were at variance with the clinicians' findings, about 0.5 per cent. On the other hand, here are a large number of treated cases, primary lesions and cerebrospinal cases in which our routine test showed either negative or only partial inhibition. In addition to the 254 instances in which the Kolmer test was positive, we have 108 doubtful reactions, a reading which would lead one to suspect syphilis, and we find clinically in this group ninety-seven treated patients, three with neurosyphilis and four with primary lesions and only one case reported not syphilis—the routine test missed these cases entirely. It is apparent that the Kolmer test requires more treatment than the routine to change it to negative, and that it is much more sensitive in primary lesions and neurosyphilis and does not show false positives. These findings are in accord with those of other observers.

The Kolmer test was negative in sixty-seven instances, and the clinical findings were negative for syphilis in all except four cases. If we accept these clinical findings, which may or may not be correct, there are apparently only four cases in which syphilis was clinically diagnosed out of a total of 4,024 negative. On the other hand, our routine test, in spite of its being regarded as a conservative test, apparently gave forty-two false positives, mostly in cases of pulmonary tuberculosis and pregnancy.

STUDY OF PRIMARY SYPHILIS

We had opportunity to study specimens from eight cases of primary lesions in which there were positive spirochete findings. As indicated in Table 2, the lesions were from three to fourteen days old. In six

TABLE 2.—*Comparison of Kolmer and Routine Tests in Eight Cases of Primary Syphilis with Positive Spirochete Findings* *

Age of Lesion	Routine	Kolmer
3 days	—	±
11 days	—	+
8 days	—	+
8 days	—	±
5 days	—	+
7 days	—	+
14 days	±	+
9 days	—	+

* In all tables, + indicates positive, — indicates negative and ± doubtful.

cases, the Kolmer test was positive, and in the other two doubtful. In only one case, that of the oldest lesion, did the routine test show any inhibition.

SEROLOGIC STUDY IN PREGNANCY

The obstetrical department of the University makes routine Wassermann tests, and in most cases sends specimens to both the state laboratory and the University laboratory. By going over the case records in ninety consecutive cases, the following serologic study of pregnancy is presented. At the time of the study, thirteen were prepartum and seventy-seven postpartum. Fifty-two of these cases were negative clinically and serologically. Seven were positive clinically, and with the Kolmer test, other tests varying; eighteen were negative with the Kolmer and routine test; the results varied with cholesterin preparatum and were negative in all tests postpartum.

Table 3 shows the details in the seven cases diagnosed positive clinically. The Kolmer test is consistently positive both prepartum and postpartum. The routine test was positive in three cases, with cholesterinized antigen in two prepartum; in other cases both tests were

negative or contradictory. Postpartum tests with cholesterinized antigen were consistently positive. Special attention is directed to case J. P. This patient was studied during several weeks. The clinical findings as well as the history were apparently negative; repeated routine tests and tests with cholesterinized antigen were contradictory; the Kolmer test was twice positive; an outside laboratory reported a negative test.

TABLE 3.—*Details of Seven Cases Diagnosed Syphilis*

	Prepartum			Postpartum			
			Cholesterinized			Cholesterinized	
Case	Routine	Kolmer	Antigen	Routine	Kolmer	Antigen	Clinically
J. P.	±−++	++	−++±(−)*	+	+	+	Syphilitic baby
M. B.	++	+	− +	+	+	+	Dead baby
P. S.	++	+	− +	..	..	+	History positive; treated syphilitic children
H. M.	− − −	+	++++	−	+	..	Case treated positive; neurosyphilis
R. B.	−+	+	++	+	+	+	Syphilitic baby
W. A.	−−	+	++ −	..	..	+	Dead baby, four previous dead babies
A. T.	++	+	− −	−	+	+	Dead baby; patient previously treated

* Outside laboratory.

TABLE 4.—*Eighteen Clinically Negative Cases Showing Varied Cholesterinized Antigen Results and Negative Kolmer and Routine Results*

Prepartum			Postpartum		
Routine	Kolmer	Cholesterinized Antigen	Routine	Kolmer	Cholesterinized Antigen
−	−	+ −	−	−	−
−	−	+ +	−	−	−
−	−	− + +	−	−	−
−	−	− + +	−	−	− −
−	−	− + − + −	−	−	− −
−	−	+ + + − ±	−	−	−
−	−	+ + +	−	−	−
−	−	+ −	−	−	−
−	−	+ −	−	−	−
−	−	+ −	−	−	−
−	−	+ + + ±	−	−	− −
−	−	− − −	−	−	−
−	−	+ ± −	−	−	−
−	−	− + + −	−	−	− −
−	−	+ − −	−	−	−
−	−	+ −	−	−	−
−	−	+ + ±	−	−	− −
−	−	+ +	−	−	− −

In view of the variation and the lateness in the pregnancy, no treatment was given. The patient gave birth to a syphilitic baby with extreme symptoms. Postpartum all three tests were positive.

Table 4 shows the variation in tests with cholesterinized antigen prepartum; the routine and Kolmer tests were negative; all tests were negative postpartum.

Table 5 shows the serologic findings in the thirteen prepartum cases. Here again the cholesterinized antigen shows a much larger percentage of positives than the Kolmer or routine tests. Twelve cases gave negative clinical findings, one was positive clinically, and in this case all tests were positive.

During pregnancy neither the routine test nor the test with cholesterinized antigen seemed to be entirely reliable; both tests showed contradictions prepartum, and the routine test did not check postpartum in the positive cases. On the other hand, the test with cholesterinized antigen showed badly in the prepartum cases (Table 4) in which all other evidence both prepartum and postpartum was entirely negative. The Kolmer test appears to have been consistently correct in all these cases.

Too frequently public laboratories receive the complaint of contradictory reports, there being at times a variance as great as positive to negative, or vice versa. This difficulty, according to Stillians,[3] cannot be entirely prevented when dealing with weak positives. Some physicians place so little confidence in the skill and honesty of the laboratory

TABLE 5.—*Study in Thirteen Prepartum Cases*

Cases	Kolmer		Clinically		Routine		Cholesterinized Antigen		
Studied	Negative	Positive	Negative	Positive	Negative	Positive	Negative	Positive	Vary.
13	12	1	12	1	10	1 (2)	1	9	3

Three cases: clinically negative, Kolmer test negative, routine test negative, with cholesterinized antigens, contraindications. Two cases: clinically negative, Kolmer test negative, routine test contraindications, with cholesterinized antigens positive. Nine cases: clinically negative, Kolmer test negative, routine test negative, with cholesterinized antigen positive. One case: findings completely positive. Cholesterinized antigen positive: 6 on one test, 3 on repeated tests.

that they send in specimens of the same blood under different names either at the same or different times. In a laboratory in which from 100 to 200 tests, perhaps with two different technics, are made daily, it is much less work to make the test than it is to go through files to find a previous report. We are sure most laboratories are attempting to do the best work possible and welcome repeated tests. When proper data are furnished with such repeated tests, it gives an excellent opportunity to check one's work; but when a physician sends in specimens of the same blood under different names giving no data, receives different reports and then complains about the worthlessness of this laboratory and the Wassermann test in general and does nothing by way of cooperation, he does no one any good. It should be remembered that specimens are received in various conditions, particularly in a state laboratory—some several days old, some more or less hemolyzed, some

3. Stillians, A. W.: Reliability of the Wassermann Test, Social Hyg. Monthly of Illinois Dept. of Health **2**:9 (July) 1922.

having been subject to heat and nearly all shaken for hours in transit. It should also be realized that a technician in making 150 Wassermann tests, say with routine and a six-tube Kolmer test, must handle 1,200 tubes and into these place carefully measured amounts of patients' serum, antigen, complement, sheep cells and hemolysin. All of these motions must be gone through with after preparation of specimens and daily titration of reagents. It is remarkable that so few mistakes are made. Only by the careful cooperation of the clinician can Wassermann

TABLE 6.—*Results of Six Daily Tests on Fresh Serums from Thirty-Six Supposedly Negative Cases*

	First Day		Second Day		Third Day		Fourth Day		Fifth Day		Sixth Day	
Case	Routine Test	Kolmer Test	Routine Test	Kolmer Test	Routine Test	Kolmer Test	Routine Test	Kolmer Test	Routine Test	Kolmer Test	Routine Test	Kolmer Test
H. A.	—	—	—	—	±	—	—	—	—	—	a.c.	—
P. L.	—	—	—	—	—	—	—	—	—	—	—	—
S. S.	—	—	—	—	—	—	—	—	—	—	—	—
M. Y.	—	—	—	—	—	—	—	—	a.c.	—	—	—
P. A.	—	—	—	—	—	—	—	—	—	—	—	—
S. B.	—	—	—	—	—	—	—	—	—	—	—	—
J. C.	—	—	—	—	—	—	±	—	—	—	—	—
E. G.	—	—	—	—	+	—	—	—	—	—	—	—
M. G.	—	—	—	—	—	—	—	—	—	—	—	—
B. G.	—	—	—	—	—	—	—	—	—	—	—	—
H. H.	—	—	—	—	a.c.	—	±	—	—	—	—	—
C. M.	—	—	—	—	—	—	—	—	—	—	—	—
E. P.	—	—	—	—	—	—	—	—	—	—	—	—
W. S.	—	—	—	—	—	—	—	—	—	—	—	—
O. B.	—	—	—	—	—	—	+	—	—	—	—	—
J. E.	—	—	—	—	±	—	a.c.	—	—	—	—	—
W. H.	±	—	—	—	—	—	—	—	—	—	±	—
J. K.	—	—	—	—	—	—	—	—	—	—	—	—
N. L.	—	—	—	—	—	—	—	—	—	—	—	—
E. B.	—	—	—	—	—	—	—	—	—	—	—	—
L. L.	—	—	—	—	+	—	—	—	—	—	—	—
E. M.	—	—	—	—	—	—	—	—	—	—	—	—
T. M.	—	—	—	—	—	—	—	—	—	—	—	—
P. P.	—	—	—	—	..	..	—	—	—	—	—	—
A. T.	—	—	—	—	—	—	—	—	—	—	—	—
J. B.	—	—	—	—	—	—	—	—	—	—	—	—
A. C.	—	—	+	—	—	—	—	—	—	—	—	—
A. F.	—	—	..	..	—	—	—	—	—	—	—	—
T. H.	—	—	..	..	..	..	..	..	..	..	..	..
O. H.	—	—	—	—	—	—	—	—	—	—	—	—
J. K.	—	—	—	—	—	—	—	—	—	—	—	—
J. M.	—	—	—	—	±	—	—	—	—	—	—	—
H. W.	—	—	—	—	—	—	—	—	—	—	—	—
L. R.	—	—	—	—	—	—	..	..	—	—	—	—
G. H.	—	—	—	—	—	—	—	—	—	—	—	—
G. V.	—	—	—	—	—	—	—	—	—	—	—	—

service be improved and the serologist check his results. With a view to studying this problem, arrangements were made to secure daily specimens from a group of known positive and negative patients, and from a group under treatment. A second group of known positives and negatives were studied by taking a large quantity of serum and testing a portion of it daily for six consecutive days. Table 6 shows the results from tests in thirty-six negative cases. The Kolmer test was consistently negative throughout. The routine test was consistently negative in twenty-three cases; in four cases, the serum was anticomplementary on one day; in four cases, the serum was positive on one

day; in four cases, the serum was doubtful on one day; and in one case, the serum was doubtful on two days. These tests were made as carefully as possible with the same reagents daily titrated, and yet the question must be raised as to whether there was technical error, whether our routine produces false positives or whether certain patients at times show the presence of reagin in their blood.

TABLE 7.—*Comparison of Kolmer and Routine Tests on Sixteen Patients with Neurosyphilis. Fresh Serum Tested Daily for Six Consecutive Days*

	First Day		Second Day		Third Day		Fourth Day		Fifth Day		Sixth Day	
Case	Routine Test	Kolmer Test	Routine Test	Kolmer Test	Routine Test	Kolmer Test	Routine Test	Kolmer Test	Routine Test	Kolmer Test	Routine Test	Kolmer Test
A. A.	+	+	+	+	+	+	±	+	+	+	+	+
R. M.	+	+	+	+	+	+	+	+	±	+	+	+
J. J.	+	+	+	+	+	+	−	+	−	+	±	+
C. M.	+	+	+	+	±	+	+	+	+	+	±	+
F. S.	+	+	+	+	+	+	+	+	+	+	+	+
G. S.	+	+	+	+	+	+	+	+	+	+	+	+
O. L.	+	+	+	+	+	+	+	+	+	+	+	+
T. B.	+	+	+	+	+	+	+	+	+	+	+	+
J. J.	+	+	+	+	+	+	±	+	+	+	±	+
W. C.	+	+	+	+	+	+	+	+	+	+	+	+
J. D.	+	+	+	+	±	+	+	+	+	+	+	+
H. D.	+	+	±	+	±	+	±	+	±	+	±	+
P. N.	+	+	±	+	±	+	+	+	±	+	±	+
W. B.	±	+	−	+	+	+	+	+	±	+	±	+
H. L.	+	+	+	+	−	+	−	+	±	+	−	+
A. B.	+	+	+	+	+	+	+	+	+	+	+	+

TABLE 8.—*Comparison of Kolmer and Routine Tests on Ten Patients Under Treatment. Fresh Serum Tested Daily for Six Consecutive Days*

	First Day		Second Day		Third Day		Fourth Day		Fifth Day		Sixth Day	
Case	Routine Test	Kolmer Test	Routine Test	Kolmer Test	Routine Test	Kolmer Test	Routine Test	Kolmer Test	Routine Test	Kolmer Test	Routine Test	Kolmer Test
S. W.	+	+	+	+	±	+	+	+	±	+	±	+
T. F.	−	±	−	±	−	±	−	±	−	±	−	±
H. B.	−	−	−	−	−	−	−	−	−	−	−	−
S. A.	−	−	−	−	−	−	−	−	−	−	−	−
C. D.	±	+	−	+	±	+	−	+	−	+	−	±
J. J.	±	+	±	+	±	+	±	+	−	+	−	+
B. R.	+	+	+	+	+	+	±	+	±	+	−	+
J. R.	+	+	±	+	−	+	±	+	±	+	−	+
H. W.	−	+	+	+	−	+	±	+	−	+	−	+
M. N.	+	+	+	+	±	+	−	+	±	+	−	+

Table 7 shows the results in tests in sixteen patients with neurosyphilis (asylum cases). The Kolmer test gave a positive reaction consistently in every case. The routine test was positive consistently in six cases; in seven cases it gave one or more doubtful tests, and in three cases it gave one or more negative reactions. It is evident from this series that the routine test cannot be depended on to show positive results in neurosyphilis.

Table 8 shows results in tests on ten known cases under treatment. As would be expected, these cases gave positive, negative and doubtful

reactions, but the Kolmer test gave consistently the same results in each patient except in one instance—Case 5, C. D. changed from positive to doubtful on the sixth day. The routine test showed some variation in every case except in three, which were consistently negative.

TABLE 9.—*Comparison of Kolmer and Routine Tests in Eighteen Cases Supposedly Syphilitic. Single Serum was Tested Daily for Six Consecutive Days*

	First Day		Second Day		Third Day		Fourth Day		Fifth Day		Sixth Day	
Case	Routine Test	Kolmer Test	Routine Test	Kolmer Test	Routine Test	Kolmer Test	Routine Test	Kolmer Test	Routine Test	Kolmer Test	Routine Test	Kolmer Test
1	+	+	+	+	−	+	−	+	−	+	−	+
2	+	+	+	+	+	+	±	+	−	+	−	+
3	±	+	−	+	−	+	−	+	−	±	−	±
4	+	+	+	+	+	+	−	+	−	+	−	±
5	±	+	−	+	−	+	−	+	−	+	−	±
6	±	+	−	+	−	+	−	+	−	+	−	+
7	+	+	+	+	+	+	±	+	±	±	−	±
8	+	+	+	+	+	+	±	+	±	+	a.c.	±
9	+	+	+	+	±	+	−	+	a.c.	a.c.	a.c.	a.c.
10	+	+	+	+	±	+	−	+	−	±	−	+
11	+	+	+	+	+	+	+	+	±	+	a.c.	±
12	+	+	+	+	±	+	−	+	−	±	−	±
13	+	+	+	+	+	+	±	+	a.c.	−	a.c.	a.c.
14	+	+	+	+	±	+	+	+	±	+	−	+
15	±	+	±	+	a.c.	+	a.c.	±	a.c.	±	a.c.	±
16	+	+	+	+	±	+	+	+	−	+	−	+
17	±	+	+	+	±	+	+	+	−	±	−	±
18	+	+	+	+	+	+	±	+	±	±	±	+

TABLE 10.—*Comparison of Kolmer and Routine Tests in Eighteen Nonsyphilitic Cases. Single Serum Tested Daily for Six Consecutive Days*

	First Day		Second Day		Third Day		Fourth Day		Fifth Day		Sixth Day	
Case	Routine Test	Kolmer Test	Routine Test	Kolmer Test	Routine Test	Kolmer Test	Routine Test	Kolmer Test	Routine Test	Kolmer Test	Routine Test	Kolmer Test
1	−	−	−	−	−	−	−	−	−	−	−	−
2	−	−	−	−	±	−	−	±	−	−	±	−
3	−	−	−	−	−	−	−	−	−	−	−	−
4	−	−	±	−	−	−	±	−	−	−	−	−
5	−	−	−	−	±	−	−	−	−	−	−	−
6	−	−	−	−	−	−	−	−	a.c.	−	a.c.	−
7	−	−	−	−	−	−	−	−	−	−	−	−
8	−	−	±	−	−	−	−	−	−	−	−	−
9	−	−	−	−	−	−	−	−	a.c.	−	a.c.	−
10	−	−	−	−	−	−	−	−	−	−	a.c.	−
11	−	−	−	−	−	−	−	−	−	−	−	−
12	−	−	±	−	+	−	−	−	−	−	−	−
13	−	−	−	−	−	−	−	−	−	−	−	−
14	−	−	−	−	−	−	−	−	−	−	−	−
15	−	−	−	−	−	−	−	−	−	−	−	−
16	−	−	−	−	±	−	±	−	−	−	−	−
17	−	−	−	−	−	−	−	−	−	−	−	−
18	−	−	−	−	−	−	−	−	−	−	−	−

Table 9 shows the results in tests in eighteen cases of known syphilis. In this series, a single specimen from each case was tested daily for six consecutive days. The Kolmer test was consistently positive up to the fourth day, when one doubtful reaction appeared; on

the fifth day, there were seven changes to doubtful and one anticomplementary; on the sixth day, there were more doubtful reactions and two anticomplementary. The routine test showed five doubtful reactions on the first day, and three of these changed to negative on the second day. On the third day, more changes appear, and after that so many changes occur that the test would be decidedly unreliable. In all cases the changes seem to be toward negative. If these changes are present in well kept serums, what can be expected with specimens more than two days old under adverse conditions? The question must also be raised as to the reliability of results in a laboratory which makes tests only two or three times a week. The Kolmer test appears reliable up to and including the fourth day.

Table 10 shows results in tests in eighteen nonsyphilitic cases. In this series again tests were made on six consecutive days from one specimen in each case. In this series, the Kolmer test, with the exception of one doubtful result, was consistently negative throughout. The routine test showed much less variation than in the positive cases, although a doubtful reaction appeared one or more times in six cases, and a positive in one instance. In three cases, the serum was anticomplementary—in two cases on the fifth and sixth day and in one case on the sixth day.

It is apparent from this series that there is less danger of wrong results in old serums in nonsyphilitic than in syphilitic persons.

GENERAL SUMMARY

The Kolmer test in a large series has shown great reliability, agreeing in practically every instance with clinical findings. In primary syphilis this test shows an ability to pick up reagin much earlier than our routine and in a larger percentage of cases than the Wassermann test is ordinarily given credit for. More treatment is required to change a Kolmer test from positive to negative than with most technics, which is an advantage in testing treated cases and in seeking to determine the question of cure. False positives are rare.

Our study on pregnancy indicates a variance of the Wassermann test prepartum, worse with cholesterinized antigen than with an alcoholic extract, but with either there is unreliability. This shows the need for repeated tests in these cases with several antigens. The Kolmer test shows little if any tendency to false positives, and yet it does not miss positive cases. This point is extremely important just now when under government subsidy the whole country is entering on a campaign for maternal and infant welfare under the Sheppard-Towner Bill. The literature recently has emphasized the value of preventing congenital syphilis by treating the pregnant mother, so that there are likely to be thousands of women tested and possibly given treatment under wrong

diagnosis. A diagnosis of syphilis in pregnancy should be made only in the presence of active symptoms or on the basis of consistently positive Wassermann tests made with several technics, including the Kolmer. Our study with repeated tests in the same cases indicates the possibility of results varying on different days in spite of the utmost care in technic. There is greater danger in this regard with positive or treated cases than with negative cases. Here again the Kolmer test shows practically no variation. This study also indicates the need of making tests on serums not more than two days old. With the Kolmer technic this period can safely be extended to three days and possibly four. No reliance should be placed on results of tests made with any technic on serums more than four days old. (Exception may be taken to this when some preservative is used. With this we have no experience.)

Throughout this study the Kolmer test has given better results than any technic which we have used. The only disadvantage (from the standpoint at least of a state laboratory) is the larger amount of work involved, and the delayed report due to the long icebox incubation period.

DISCUSSION

Dr. Arthur W. Stillians, Chicago: With all three antigens we can fail to get positives that show up on later tests. That has occurred a number of times in my experience. I have delayed using the Kolmer technic on account of inability to control icebox temperature, but I have tried the Kolmer antigen with incubator fixation and have had the same difficulty. I would like to have Dr. Irvine explain the antigen that was used in his Kolmer work.

Dr. John H. Stokes, Rochester, Minn.: Our experience with the Kolmer Wassermann technic now extends over eight months and represents perhaps 20,000 tests carried out in Dr. Sanford's laboratory. We find that the procedure offers a much more serious problem to the large laboratory moving at high speed than to the smaller laboratory working under conditions which permit more careful supervision. We feel that there is no question as to the much greater sensitiveness of the Kolmer procedure, and this in itself constitutes a definite advance over the technics which we have been employing. On the other hand, we feel that there is also room for the question as to whether or not the Kolmer technic is oversensitive. Taking into consideration the increase in true positive results and the decrease in false negatives, we feel that we do not encounter the disadvantages of a corresponding increase in false positives. Nevertheless, we are not satisfied that the possibility of false positives is entirely eliminated. Dr. Wile will recall a case in the study of which Dr. Kahn cooperated. With their assistance we checked a definite series of false positive results in one case. Dr. Stillians has also seen two cases in which we obtained what appeared to be definite false positive results. In one of these cases, the effect was obtained during a provocative procedure. Whether or not the findings are to be ascribed to technic alone or to the intrinsic merits of the case is important, of course, but cannot be regarded as dismissing the issue. Dr. Sanford feels that the icebox temperature and the hydrogen-ion concentration of the salt solution are two important elements in the reaction.

What I wish to emphasize is that the Kolmer modification of the Wassermann test, while a great improvement on the existing technic with which we have had experience, is still a Wassermann reaction and not infallibly fool proof. The general acceptance of the procedure will lead to its adoption by laboratories which are no more competent to perform it than they are to perform the older types of test. There will, therefore, probably be false positives which must be brought before the bar of clinical judgment for interpretation and decision. This word of caution, however, does not for a moment minimize the tribute due Dr. Kolmer and his associates for a remarkable advance in the serologic diagnosis of syphilis.

Dr. James Herbert Mitchell, Chicago: I have had experience with the Kolmer technic in one case, and was rather unfortunate in having a false positive. I proved that definitely by checking it up by the Kahn reaction and Wassermann tests in various other laboratories, all of which were negative. The particular laboratory that carried out the Kolmer test rechecked and gave in the recheck the result originally given. That I know was a false positive, but the laboratory insisted on its result.

Dr. Walter J. Highman, New York: I believe that as the Wassermann test is performed there will always be a question of whether we have a certain percentage of false positives and possible false negatives. I do not see what can be done about the liability to error that is inherent in the personal equation. I think that is precisely why it requires the clinical studies of the physician to determine what opinion is to be based on the result. I think the subjective factor never can be eliminated, and for this reason I believe we are showing an unusual and perhaps a meticulous regard for protecting physicians against themselves. The small margin of liability to error will have to be contended with because the test is a human procedure, not a mathematical one.

I was much interested in one point, and that is the feeling of the state laboratory toward the clinician. I can see its expediency, but it is either a reflection on the physician, on the medical school that gives inadequate education or on the state licensing boards. I think there is a certain unwholesomeness in this type of censorship over people who are our colleagues and presumably our equals in training. What the laboratory does not know in a given case are ultimate facts, and it is distinctly within the province of the physician to apply the results. I believe the only way in which we can ever practice a wholesome brand of medicine, both clinically and in its sociologic aspects, is to tell the physician what the facts are and let him deal with them. In the state capital they cannot tell what is the matter with a patient many miles away and tell the physician how to treat the patient. I believe the simplest thing to do is to exert the greatest care in the performance of the test, give the physician the information he is to deal with and leave the rest to that slight mathematical element of chance and error which is inherent in all human undertakings.

Dr. Jay Frank Schamberg, Philadelphia: Any test of this character in order to be valuable must possess two properties—sensitivity and specificity, and the value of the test must in large part be based on these two criteria. I have had the opportunity for the past two years to study the clinical value of the Kolmer test on both hospital and private cases. There can be no doubt that it is far more sensitive than the old three antigen method. I could cite many instances of uncured cases of syphilis negative by the older method and positive with the Kolmer test. A man aged 40, with neurosyphilis and a gumma of the metatarsal bones, had had repeated negative Wassermann

reactions in tests made in several cities. Both the blood and spinal fluid were likewise negative in our laboratory by the old method, but both were distinctly positive with the Kolmer test. Treatment led to the disappearance of the gumma and a marked improvement in the patient's general health.

The question of specificity is of great importance. Dr. Kolmer and a collaborator in charge of a leprosarium have been studying the Wassermann test in relation to leprosy. We have been accustomed to think that the blood in leprosy often yields a positive Wassermann reaction. It does with the old technic but not with the Kolmer method. Only cases in which there is a coexisting syphilis are positive.

The question of false positives is, of course, an important one. I have not as yet observed such an outcome, nor have four other writers who have published papers on the Kolmer test. It should be added, however, that their work was not based on so extensive a series as Dr. Stokes reports. We know that no biologic test is infallible and that slight laboratory errors may lead to erroneous results. The great failure of the old Wassermann test is that it fails to detect syphilis in the presence of small amounts of reagin in the blood. Cases still requiring treatment are commonly subjected to therapeutic inaction.

Dr. Harry G. Irvine, Minneapolis: Replying to Dr. Stillians, I did not discuss the technic side of this question purposely, for I am not an expert serologist and do not wish to discuss that side. We attempted to follow the Kolmer technic as closely as we could according to his published papers.

Relative to Dr. Highman's criticism regarding our paternalism, the first object of the state work is the protection of its people rather than the service of its physicians. I am sure if Dr. Highman had had the experience I have had in working with the Bureau of Venereal Diseases in Minnesota, he would agree with me that it was our duty to try to prevent some of these people from being wrongly treated on the basis of partly positive tests. Out of these tests, only thirty-nine were partly positive. If more than one test shows this result, the case is taken up with the individual physician and the report given. We realize that these specimens come in from all over the state, that they are shaken up in warm cars and that it is not possible for us to be sure whether a partly positive result is not due to these conditions rather than to the actual blood condition.

Pregnancy has been a great question with us. When a pregnant woman comes for a test in the sixth or seventh month of pregnancy, and we know there is a chance of having a healthy baby with treatment and we get a positive Wassermann reaction, we hesitate not to treat that patient, and I think that if the Kolmer technic will help us with that class of cases it will be very much worth while.

A NEW METHOD FOR THE DEMONSTRATION OF SPIROCHAETA PALLIDA IN THE SPINAL FLUID *

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Compared with the extensiveness of our knowledge of the clinical and pathologic involvement of brain, cord and coverings in syphilis, the facts relating to the contagiousness of spinal fluid, or, in other words, its spirochetal contents, are disappointingly meager. The earliest investigations are probably those of Uhlenhuth and Mulzer,[1] who in 1913 reported negative results from the inoculation of rabbits with the spinal fluid from both early and late forms of cerebrospinal syphilis. A later observation by the same authors reported a positive inoculation from early cerebrospinal syphilis. Hoffmann [2] produced experimental syphilis in a monkey with spinal fluid obtained from a case of early papular syphilis, and Nichols and Hough [3] were successful in inoculating a rabbit from a case of acute cerebrospinal syphilis by intratesticular injection of spinal fluid. From this case they were able to grow successfully the organism. In nineteen cases of paresis, tabes and cerebrospinal syphilis reported by Steiner, spinal fluid inoculations were negative. In three cases taken from patients with early syphilis, positive findings were recorded. A positive result on the cerebrospinal fluid in paresis is recorded by Volk,[4] after four months' incubation. In two cases of early syphilis with apparently negative fluid, Arzt and Kerl [5] produced positive inoculations in both.

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* Studies and contributions of the department of dermatology and syphilology of the University of Michigan Medical School, service of Dr. Udo J. Wile.

1. Uhlenhuth and Mulzer: Centralbl. f. Bakteriol. **57**:158, 1913.

2. Hoffmann, E.: Dermat. Ztschr., 1906, p. 561.

3. Nichols, H. J., and Hough, W. H.: Demonstration of Spirochaeta Pallida in the Cerebrospinal Fluid, J. A. M. A. **60**:108 (Jan. 11) 1913.

4. Volk: Wien. klin. Wchnschr. **26**:1824, 1913.

5. Arzt and Kerl: Wien. klin. Wchnschr. **27**:785, 1914.

The same authors with Mattauschek [6] obtained positive takes in from two to four cases of paresis and two or three of tabes.

A successful inoculation in a case of juvenile paresis is recorded by Marinesco and Minea,[7] after five months' incubation. Results along the same lines with spinal fluid from primary, secondary and late syphilis were recorded in 1916 by Frühwald and Zaloziecki.[8] Of twenty-three cases investigated by them, four resulted in positive inoculations. In 1917, Reasoner [9] successfully inoculated a rabbit from the spinal fluid of a patient who died of cerebrospinal syphilis. The strain of the organism recovered in this case possesses unusual cultural characteristics. In the same year one of us (Wile [10]) produced successful inoculation in rabbits from eight cases of cerebrospinal syphilis, general paresis and tabes dorsalis. In this series of cases, two inoculations from acute cerebrospinal syphilis resulted in positive takes in both, two of three from general paresis were positive, and one of three in tabes. In this series of experiments, it was noted that the positive takes occurred in cases in which the pleocytosis was relatively high.

From the experiments at this time, it was urged by the author that the spinal fluid must be regarded as an infectious fluid, and should be handled with as great care as other syphilitic secretions.

The actual demonstration of spirochetes in the spinal fluid is recorded in the most isolated instances. In 1905, Dohi and Tanake [11] are said to have reported spirochetes in a single case of early syphilis in a series of a great number of investigations. Sezari and Paillard [12] reported having found them in a dark field in a case of left-sided hemiplegia. Gaucher and Merle [13] reported finding them in the centrifugated fluid in a case of hemiplegia, and Levaditi, Marie and Bankowski [14] reported having found them in the centrifugated ventricular fluid of a case of paresis. Against these isolated instances is the recorded failure of enormous numbers of fluids investigated under the most favorable circumstances by many observers. The isolated demonstrations, moreover, by the dark-field method, is open to the possibility of mistake in identification, and to possible contamination from the blood stream.

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6. Arzt, Kerl and Mattauschek: Wien. klin. Wchnschr. **27**:787, 1914.
7. Marinesco and Minea: Acad. de sc. sem. méd., 1914, p. 357.
8. Frühwald and Zaloziecki: Berl. klin. Wchnschr., 1916, No. 1, p. 9.
9. Reasoner, M. A.: Early Death from Cerebral Syphilis, with Successful Rabbit Inoculation, J. A. M. A. **66**:1917 (June 17) 1916.
10. Wile, U. J.: Am. J. Syph. **1**, No. 1, January, 1917.
11. Dohi and Tanake: Japan Ztschr. f. Dermat. **5**, No. 5 and 6, 1905.
12. Sezari and Paillard: Soc. de Biol. **68**:295, 1910; Bull. méd., 1910, p. 232.
13. Gaucher and Merle: Ann. méd. ven., 1910, p. 426.
14. Levaditi, Marie and Bankowski: Ann. de l'Inst. Pasteur. **27**:576, 1913.

The recent investigations on the occurrence of rabbit syphilis, as based on the early investigations, first of Noguchi,[15] and subsequently of Ross,[16] Arzt and Kerl,[17] Jacobsthal,[18] and Klarenbeek [19] throws into considerable doubt much of the earlier experimental work in which the transmission of syphilis from various body fluids to rabbits is recorded as instances of true syphilis in the rabbit. As Noguchi has brought out, the spirochete of rabbit syphilis, designated as *Spirochaeta cuniculi,* so closely resembles the organism of human syphilis that morphologic differentiation between the two is difficult. In a more recent article by Warthin, Buffington and Wanstrom,[20] better differentiation between *Spirochaeta cuniculi* and *Spirochaeta pallida* was brought out, and it was shown that cuniculi lie on and in the epithelium, and are not found in numbers very deep in the tissue. Their localization, moreover, is an epithelial, and not, as in pallida, a vascular one. Their entrance into the blood stream is maintained by these authors to be accidental, and only occasional. They concluded that cuniculi spirochetosis is a local disease of epithelial surfaces, the general pathology of which does not in any way resemble syphilis. "Rabbit syphilis," they maintain, should refer to true syphilis in the rabbit. The outstanding differences between the two are the presence of a positive Wassermann reaction in animals infested with the pallida as against a negative reaction in those infested with the cuniculi, and the failures thus far of demonstration of the rabbit organism.

In those cases, therefore, in which a positive result was not checked by either cultural or positive Wassermann reaction, a certain amount of doubt at least attaches to the identity of the disease in the rabbits as syphilis, it having been definitely shown that in a certain percentage of stock animals the infection with cuniculi occurs accidentally.

Under these conditions, therefore, which shed some doubt on the earlier results of the presence of the organism in the spinal fluid, it seems most important that its presence or absence should be definitely established.

We wish to present herewith a new and apparently promising method for the determination of *Spirochaeta pallida* in the spinal fluid. The method herein described consists in the application of the newer

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15. Noguchi, H.: J. Exper. Med. **17**:89, 1913; A note on the Venereal Spirochetosis of Rabbits, J. A. M. A. **77**:2052 (Dec. 24) 1921; J. Exper. M. **35**:391, 1922.

16. Ross, E. H.: Brit. M. J. **2**:1653, 1912.

17. Arzt and Kerl: Wien. klin. Wchnschr. **27**:1053, 1914; Dermat. Ztschr. **29**:65, 1920; Dermat. Wchnschr. **71**:1047, 1920.

18. Jacobsthal, E.: Dermat. Wchnschr. **71**:569, 1920.

19. Klarenbeek, A.: Ann. de l'Inst. Pasteur. **35**:326, 1921.

20. Warthin, Buffington and Wanstrom: J. Infect. Dis. **32**:315 (May) 1923.

improved method of staining, as devised by Warthin and Starry,[21] to the Alzheimer method of study of the spinal fluid with regard to its cellular content.

In 1907, Alzheimer [22] described a method for the studying of cells of the spinal fluid by precipitation of the albuminous and organic solids by treating the fluid with 96 per cent. alcohol, followed by centrifugation. This method resulted in a firm clot, which could then be treated with alcohol, ether and embedded, sectioned, submitted to ordinary pathologic technic, and stained with various dyes to study the cell content. It occurred to us that if spirochetes were present in the spinal fluid, these as well as the cells might and would probably be carried down in the organic coagulum, and that by proper embedding and staining, the organism of syphilis might be demonstrated in this way. In order to produce a proper clot, however, it became necessary to centrifugate at great speed, and it occurred to us that a method which would obviate centrifugation while the organisms were suspended in the fluid might be productive of better results, owing to the fragility of the organism and the possibility of its breaking up. For this reason, we experimented with other forms of protein precipitants, endeavoring to determine which would produce a clot sufficiently firm without rapid centrifugation. We tried out the use of kaolin (suggested to us by Prof. Howard Lewis), adding this to the spinal fluid, and allowing it to settle, and also the use of aluminum cream. The latter is prepared as follows: Ordinary alum is treated with ammonium hydroxid, precipitated out, and then the precipitation washed by decantation until no further ammonia is given off and no further test with litmus paper for ammonia in the water is obtained. When the water is no longer alkaline, the jelly is complete.

The advantages of these methods, and the differences in their results, were brought out in a recent paper by Warthin and Wanstrom, to whom all of our material was sent for staining. We have investigated during the past six months the spinal fluid from 101 different cases of cerebrospinal cases and fourteen suspected cases. These are divided as follows: (1) hereditary syphilis, 8; (2) latent syphilis, asymptomatic, 30; (3) primary syphilis, blood Wassermann test negative, 4; (4) primary syphilis, blood Wassermann positive, 1; (5) secondary syphilis, cerebrospinal fluid negative, 15; (6) secondary syphilis, cere-

21. Warthin, A. S., and Starry, A. C.: Second Improved Method for the Demonstration of Spirochaeta Pallida in the Tissues, J. A. M. A. **76**:234 (Jan. 22) 1921; J. Infect. Dis. **30**:592, 1922.

22. Alzheimer: Centralbl. f. Nerv. u. Psychiat. **18**:449, 1907. Wile, U. J., and Marshall, C. H.: A Study of the Spinal Fluid in One Thousand Eight Hundred and Sixty-Nine Cases of Syphilis in All Stages, Arch. Dermat. & Syph. **3**:272 (March) 1921.

brospinal fluid positive, 5; (7) late syphilis, not cerebrospinal, 6; and the following types: (8) (*a*) late cerebropsinal, 22; (*b*) tabes dorsalis, 3; (*c*) taboparesis, 3; (*d*) general paresis, 4; (9) suspected syphilis, Wassermann test negative, 14.

The results of the examinations in these cases are reported to us by Warthin as positive in twelve cases. Of these twelve positive findings, it is interesting to analyze the types of cases from which they came. Seven of this group had early syphilis. The chancre was still present in all of them, accompanied by marked secondary manifestations in five. Two of the seven cases were complicated by chancroidal infection.

Particular interest is directed to the occurrence in two cases of this early group of an alopecia which was present as a secondary manifestation.

TABLE 1.—*Early Syphilis*

Diagnosis	Blood Wassermann Test	Spinal Fluid	Spirochetes
Multiple chancre, mucous patches, papulosquamous exanthem	Positive	Negative	Positive
Ulcus mixte (duration nine days)	Negative	Negative	Positive
Chancre, roseola	Positive	Negative	Positive
Chancre, papulosquamous exanthem, alopecia	Positive	Negative	Positive
Multiple chancre, follicular secondary syphilis, mucous patches, alopecia	Positive	Positive	Positive
Ulcus mixte	Positive	Negative	Fragments
Multiple chancre, mucous patches	Positive	Negative	Positive

TABLE 2.—*Late Syphilis*

Diagnosis	Blood Wassermann Test	Spinal Fluid	Spirochetes
Tabes dorsalis, optic atrophy	Positive	Positive	Fragments
Syphilitic periostitis	Positive	Positive	Positive
Gumma of the testicle, irregular pupils	Positive	Negative	Positive
Cerebrospinal syphilis, vascular type, irregular pupils, retarded reflexes	Positive	Positive	Fragments
General paresis	Positive	Positive	Positive

In this connection, it is worthy of note that one of us recorded the high incidence of cerebrospinal involvement coincident with alopecia many years ago. Of the seven early cases, six were positive in the blood stream and one was negative. The single negative case was complicated by chancroid, and was of only nine days' duration. In these early cases, the spinal fluid from the standpoint of the Wassermann reaction and other criteria was negative in all but one. It is noteworthy, however, that all of these cases were in what might be termed the septic stage of the disease, or were examined during the period of active spirochetosis in the blood stream. The single case in which positive findings were found was one in which the multiple chancres, mucous patches, follicular syphilid and alopecia were present. In this case there were twenty cells in the spinal fluid, with marked increase in the organic solids and a positive Wassermann reaction.

Of the remaining five cases, one was a recurrent secondary case, a syphilis one year old with periostitis of the tibia, a positive blood finding, positive findings in the spinal fluid, but without clinical cerebrospinal syphilis.

Fragmented forms of spirochetes were reported by Warthin to us in one case of tabes with optic atrophy, with strongly positive findings in the spinal fluid. Fragmented forms suggestive of positive findings also were reported to us in one case of cerebrospinal syphilis of the vascular type, with positive findings in the blood and spinal fluid. The patient presented clinically merely inequality of the pupils, and retarded tendon reflexes. Good spirochetes were reported to us in one case of general paresis, the syphilis dating twenty-four years previously, with positive findings in both blood and spinal fluid. The last case in which good spirochetes were reported to us as having been present was one of gumma of the testicle; the blood Wassermann test was ++++, the spinal fluid negative. Clinically this patient showed irregular pupils with a narrowed excursion to light.

CONCLUSIONS

(1) The coagulation of the organic solids in spinal fluid by the method of Alzheimer and the method suggested by us embodying the use of alum jelly as a protein precipitant, offers a likely field for the demonstration of the organisms in the spinal fluid. Of 115 cases examined, suggestive findings were found in three, positive findings in nine. The spinal fluid, therefore, as recorded in our early experiments, must be regarded as having a spirochetal content in cerebrospinal syphilis, and should be regarded, under these conditions, and coincident with the blood spirochetosis, as an infectious secretion.

(2) In the light of the foregoing, negative findings in the spinal fluid, with our present criteria, cannot be too strictly regarded as negating the presence of cerebrospinal involvement.

DISCUSSION

DR. ALFRED S. WARTHIN, Ann Arbor: The part played by my laboratory in this research was to search for the spirochetes in the coagula received from Dr. Wile's department. It was necessary to alter the Alzheimer method in order to give any spirochetes contained in the coagula a proper fixation with formaldehyd. We endeavored to receive the coagula as quickly as possible, and replace the alcohol with a 10 per cent. solution of neutral formaldehyd. Small clots were left in the formaldehyd for thirty hours; large clots, for three days. The clot was then treated as a piece of tissue and was put through the routine method of paraffin-embedding; thorough dehydration in absolute alcohol, one-half hour in two changes of pure xylol, one-half hour in paraffin No. 1, and twelve hours in paraffin No. 2. A paraffin melting at 52 C. was used. Embedding and blocking are carried out in the usual way for tissues. Sections are cut at 5 to 7 microns, and are floated onto cover-glasses prepared

with albumin-fixative, using No. 1 or thin No. 2 cover-glasses. The mounted cover-glasses are dried, and the paraffin removed by successive immersion in xylol, 96 per cent. alcohol and distilled water. From the distilled water the section was placed in a concentrated solution of hydrogen peroxid for from ten to fifteen minutes, and then thoroughly washed in distilled water. The mounted cover-glass was then taken from the distilled water and rinsed with a 2 per cent. silver nitrate solution; the wet section was covered with another clean cover-glass wet with the 2 per cent. silver nitrate solution so that the two were held together by capillary attraction. The adherent cover-glasses were then put on edge into a dark bottle containing a freshly made 2 per cent. solution of silver nitrate, and kept in an incubator for one hour. The cover-glasses were then removed, separated, and the mounted section placed section side up in the reducing fluid consisting of 3 c.c. of a 2 per cent. solution of silver nitrate, 5 c.c. of warm glycerin, 5 c.c. of a warm 10 per cent. aqueous gelatin solution, 5 c.c. of a 15 per cent. agar solution and 0.8 to 1 c.c. of a 5 per cent. aqueous hydroquinon solution. In this the sections were reduced for from one to five minutes, until the reducing solution became dark brown, when the background of the section of tissue was of a light tan or grayish tan, and the spirochetes black against this. Nothing else was black but red blood cells and the nuclei of the white cells.

This method gave the best results. The kaolin and aluminum cream modifications were not successful, except in one instance with the latter. One hundred and eighteen coagula (115 cases) from Dr. Wile's clinic were studied, and positive findings of *Spirochaeta pallida* were obtained in twelve cases. The organisms are distorted or broken into segments containing two to three turns, although occasional well-preserved ones are found. Centrifugation tends to straighten out the coils. We have demonstrated this experimentally by using *Spirochaeta cuniculi* in rabbit serum, coagulating in the Alzheimer method and staining by our method. There is nothing else in these coagula that can be mistaken for the spirochetes, and the diagnosis can be made on the morphologic features as well as the staining of the well-preserved organisms.

The silver-agar method developed in my laboratory is the quickest and surest method yet devised for the demonstration of spirochetes in tissue-sections or in cover-glass smears. Its application to the study of the spirochete content of the spinal fluid of syphilitic persons is of great interest and of practical importance. If spirochetes are present in spinal fluid, and if by centrifugation they can be gathered into the coagula prepared by the method outlined above as we have demonstrated, a valuable aid has been given to the diagnosis of cerebrospinal syphilis. If centrifugation can be carried out at a speed that will throw them down without fragmenting them, and if the coagula could be formed in a formaldehyd containing mixture, the morphologic characters of the spirochetes would undoubtedly be better preserved.

FERMENTATION REACTIONS OF THE RINGWORM FUNGI

II. CHARACTERISTICS OF THREE DIVISIONS OF THE TRICHOPHYTON GROUP *

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In a previous report it has been shown that most of the trichophyta ferment carbohydrates as do the other lower fungi. A medium was described which has proved satisfactory for studying their fermentation reactions. It was shown that they could be readily differentiated from common saprophytic fungi by their failure to ferment certain disaccharids and pentoses. These same tests brought out fermentative differences within the ringworm group and have been of sufficient aid to us in the identification of unknown strains to lead us to believe that the results would be of interest to other workers in this field.

STRAINS OF FUNGI STUDIED

As types of the various species of dermatophytes here discussed, we have used seventeen strains isolated and identified by Prof. Sabouraud. We have also included a strain of *Epidermophyton rubrum*, isolated by R. S. Hodges, and a strain of our own which corresponds to *Epidermophyton interdigitale* described by Priestly. These have been compared with strains of our own or those sent us by other American workers which may be listed as follows:

M. audouini	18 strains
Microspora of the lanosum group	27 strains
Trichophyta of the gypseum-niveum group	14 strains
Trichophyton violaceum	6 strains
Epidermophyton rubrum	3 strains
Achorion schönleinii	10 strains
Other varieties	21 strains
	99 strains

These cultures were tested on the peptone-free agar of Currie [1] with the addition of seventeen different carbohydrates:

4 polyatomic alcohols: glycerin, d-mannite, d-sorbit, dulcit

4 hexoses: d-mannose, d-glucose (or dextrose), d-fructose (or levulose) and d-galactose

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1. Hopkins, J. G., and Iwamoto, K.: Fermentation Reactions of the Ringworm Fungi. I. Differentiation of the Trichophyta and Allied Genera from Other Fungi, Arch. Dermat. & Syph. **8**:619 (Nov.) 1923.

3 pentoses: xylose, l-arabinose, and rhamnose
3 disaccharids: maltose, saccharose and lactose
1 trisaccharid; raffinose
1 polysaccharid: dextrin
1 glucosid: salicin

Each set of tests included a control tube of Currie's agar without carbohydrate.

CONSTANCY OF RESULTS

If a fungus developed well on any given sugar, this reaction with few exceptions was found constant when we repeated the test with the same strain or with other strains of the same species. Such reactions we have recorded in the table as "+ +" and "+ + +." The acid production was less regular, though the development of a marked and relatively permanent acidity was characteristic of *Trichophyton gypseum* and related species.

The results were much more irregular when we recorded a slight increase in growth as compared with the control tube, especially when these observations were made after several months' incubation. Even with the same strain varying results in this respect were often obtained on repeating the test. These inconstant results seemed to indicate, however, that the ability to utilize certain carbohydrates was common to the entire group, though far better developed in some species than in others.

CARBOHYDRATES UTILIZED

Nine of the test substances were fermented.

The best growth was obtained on d-mannite, d-mannose, d-glucose and d-fructose. Of these, mannite and mannose have the same stereo-arrangement of their asymmetric carbon atoms. Glucose and fructose differ only as to arrangement about a terminal atom in the chain. On account of their similar structure, they are grouped together in the mannite series, and they are, as a rule, attacked by the same enzymes. Sorbit, which belongs to the same series and has the same conformation as glucose and fructose, gave irregular results, but most species occasionally fermented it. Dextrin and maltose, which are composed of multiples of glucose radicals, were attacked more slowly. Galactose, which belongs to the dulcit series, and glycerin, which has little chemical relationship to the other fermentable substances, both gave slight growth after long incubation. These statements apply to all species of ringworm fungi studied, with the few exceptions noted in Table 1. It was our experience that the more often we tried the tests, the more such exceptions disappeared, and it seemed probable that with sufficient

repetition a slight late growth could be obtained with all varieties on these nine substances.

The ringworm fungi did not develop on lactose, saccharose, xylose, l-arabinose or dulcite, and the same is true of raffinose, rhamnose and salicin, but for the exceptional appearance of late feeble growth.

While the various species agreed in the main as to the kind of carbohydrate they attacked, they varied greatly in speed and vigor of growth on the fermentable substances.

CHARACTERISTICS OF SUBGROUPS

On the basis of prompt and definite reactions, we can divide the organisms studied into three subgroups:

Group A: Slow fermenting varieties including *T. violaceum, Epidermophyton inguinale,*[2] *Achorion schönleinii,* and the large-spored trichophyta, both of the faviform group (*T. album* and *ochraceum*) and the downy group (*T. rosaceum* and *vinosum*).

Group B: Intermediate types. This includes *Microsporon audouini* and all members of the endothrix and neoendothrix groups (acuminatum, crateriforme, cerebriforme, etc.), except *Trichophyton violaceum.*

Group C: Rapidly fermenting varieties, including *Microsporon lanosum* and related strains, such as *fulvum,* the trichophyta of the gypseum-niveum group (asteroides, radiolatum, etc.), *Epidermophyta rubrum* and *interdigitale,* and *Achoria gallinae* and *quinckeanum.*

CHARACTERISTICS OF SPECIES

Further than this it has been impossible, so far, to make categorical divisions by means of fermentation reactions. There are, however, differences which, while not invariably brought out, are frequently of aid in the recognition of certain species. For example: *Microsporon audouini* shows an almost constant difference from the other feebly fermenting organisms during the first month, in that it usually attacks mannite only. *Microsporon lanosum* seems to differ from the gypseum species which ferment the same sugars, in that it produces transient acidity; whereas, the gypseum and allied species produce a relatively permanent change in reaction. Typical strains of *Microsporon fulvum* differ from *Microsporon lanosum* in a more active fermentation,

2. We found cultures which resemble morphologically Epidermophyton inguinale, but which ferment actively. Since the Sabouraud strain consistently fails to ferment in the first two weeks, it seems that these cultures of ours cannot be identical with it.

especially on maltose, dextrin and sorbite. Other strain characteristics of this kind are shown in Table 1.

LIQUEFACTION OF GELATIN

We would add to this report on fermentation reactions some observations on the liquefaction of gelatin by these organisms. All the dermatophytes liquefy gelatin to some degree. The most active in this respect is *Achorion schönleinii* which produces marked liquefaction in two or three days, long before there is any apparent growth. The microspora both of the Audouini and the lanosum group, show the feeblest reaction, and at the end of two weeks there is seldom more than a shallow pool at the top of the gelatin tube. This fact was noted by Bodin and considered by him as characteristic of this genus. *Epidermophyton rubrum* also liquefies slowly. However, between members of the ringworm group the differences observed in gelatin liquefaction seemed less constant than those in sugar fermentation. In distinguishing the trichophyton group from other hyphomycetes, gelatin liquefaction is of no value, because many of the saprophytic strains also digest this substance rapidly.

COMMENT

The results are of some interest in the selection of suitable mediums for cultivation of these fungi. For one thing, the fact that none of these strains readily utilizes maltose indicates that the undoubted growth-stimulating properties of Chanut's maltose brute are not due to the maltose which it contains, but, as has frequently been surmised, to certain impurities. Hodges has given evidence to show that it contains a considerable proportion of glucose, but as organisms often grow more actively on it than they do on pure glucose, it seems probable that it contains other growth-stimulating substances derived from germinating barley. The inability of so many of these strains to utilize any carbohydrate within the first weeks of growth leads us to doubt whether sugar-containing mediums are the most suitable for the isolation of such organisms as *Achorion schönleinii,* the faviform trichophyta and others.

The present study confirms the impression obtained from most studies of these organisms that there are certain fixed types which can be fairly definitely identified by those who are familiar with their characteristics and a host of other types varying to a greater or less extent from these, which are probably best classified as variants of the species which they most closely resemble.

Certain facts already brought out by morphologic studies are emphasized by the results of these fermentation tests. For example,

TABLE 1.—*Fermentation Reactions of Three Groups of Ringworm Fungi**

		Period of Incubation																							
		2 Weeks								1 Month							From 2 to 5 Months								
		d-Mannite	d-Sorbite	d-Glucose	Maltose	Dextrin	d-Galactose	Glycerin	Gelatin	d-Mannite	d-Sorbite	d-Glucose	Maltose	Dextrin	d-Galactose	Glycerin	d-Mannite	d-Sorbite	d-Glucose	Maltose	Dextrin	d-Galactose	Glycerin		
Group A Slow Fermenting	Trichophyton album	..	..	..	..	..	..	..	+++	..	..	..	..	..	..	..	±	..	±	..	±	..	±		
	Trochophyton ochraceum	..	..	..	..	..	..	..	+++	..	..	..	..	..	..	..	+	..	±	±	±	..	..		
	Trichophyton rosaceum	..	..	±	..	..	..	..	++	∓	..	±	..	..	..	..	±	±	±±	..	±	±	±		
	Trichophyton vinosum	±	∓	±	..	..	..	..	+++	±	±	±	..	..	..	..	±±	±±	±±	..	..	..	∓		
	Trichophyton violaceum	..	..	..	..	..	..	..	++	∓∓	∓	∓∓	∓	∓	∓	∓	±±	∓	∓	∓	∓	∓	∓		
	Epidermophyton inguinale	..	..	..	..	..	..	..	++	∓	..	∓	..	..	..	..	±	±	±	±	..	±	..		
	Achorion schönleinii	∓	..	∓	..	..	..	..	+++	∓	..	∓	..	..	..	..	+±	.	±±	±±	±±	..	..		
	Achorion schönleinii (pleomorphic)	A	..	A	..	..	..	..	..	A	A	A	A	A	..	A	a	..	..	A	A	..	A		
		+	±	++		+		+		++	++	++	+	+.	±	+	++	++	++	+	+	±±	++		
Group B Intermediate	Microsporon audouini	..	..	..	..	..	..	..	..	a															
		±							+±	++	∓	∓	..	..	..	..	++	±	+±	±±	±	..	..		
	Trichophyton cerebriforme	..	..	..	..	..	..	..	..	A															
		±		±		±			+±	++	+	+	+	+	..	..	++	++	++	++	++	±±	±		
	Trichophyton crateriforme	a	..	..	..	..	..	..	..	A	..	a													
		+	+	+	±	±	±	..	+±	++	++	++	+±	+±	±	..	+++	++	++	++	++	++	±		
	Trichophyton acuminatum	a	..	..	..	..	..	..	..	a	..	a													
		+		+	±	±			+±	+++	+	++	±	±	..	..	+++	++	++	++	++	±	..		
Group C Rapidly Fermenting	Microsporon lanosum	A																							
		+++	∓	+±	..	∓	..	..	+	+++	±	+++	∓	+	∓	..	+++	+±	+++	+∓	+±	∓	+		
	Microsporon fulvum	A	..	a	..	..	..	..	..	..	A	A													
		+++	∓	++	∓	∓∓			+	+++	±±	++	+±	+±	±	+	+++	+±	+++	+++	+++	±±	++		
	Trichophyton asteroides	A	..	..	..	..	..	..	..	A	..	A	..	A	..	..	a	..	a	..	..	±±	..		
		+++		++	±	±	±	±	++	+++	±	+++	++	++	±	±	+++	±	+++	+++	+++	±±	±±		
	Trichophyton radiolatum	A	..	a	..	..	..	..	..	A	..	A	..	A											
		+++		+		±			++	+++	±	+++	++	++	±	±	+++	±	+++	+++	+++	++	++		
	Trichophyton lacticolor	A	..	a	..	..	..	..	..	A	A	A													
		+++	∓	+		+			++	+++	+	+++	±	++	..	..	+++	++	+++	+++	+++	++	++		
	Trichophyton niveum	A	..	a	..	..	..	..	..	A	..	A					a	..	a						
		+++		+++		+			+++	+++	±	+++	+	+++	..	..	+++	±	+++	+++	+++	++	++		
	Achorion quinckeanum	A	..	a	..	..	..	..	..	A	a	A	..	..	..	..	..	..	..	a						
		+++	±	++	±	±			++	+++	±±	++	..	±	..	..	+++	++	++	++	++	++	++		
	Achorion gallinae	A	..	a	..	..	..	..	..	A	..	A	..	a											
		++		+					++	+++	++	+++	..	±	..	..	+++	++	+++	++	++	..	±±		
	Epidermophyton interdigitale	A	..	A	..	..	..	..	..	A	..	A	..	A	..	a									
		++		++		±			++	++	..	++	..	+	..	+	+++	..	+++	+	++	+	++		
	Epidermophyton rubrum	A	..	A	..	..	..	..	..	A	A	A	a	A	..	..	A	..	A	A	A				
		+++		+++	++	++			±	+++	+++	+++	+++	+++	..	±	+++	+++	+++	+++	+++	±	+		

* Indicates absence; and ± growth definitely better than in control tube; + + and + + + more profuse growth. Variable results are indicated

the *Trichophyton violaceum* seems to bear no close relationship to the other members of the endothrix group. *Achorion quinckeanum* and *gallinae* show little similarity to *Achorion schönleinii,* and seem related more closely to the gypseum and lanosum groups. *Epidermatophyta rubrum* and *interdigitale* show no relationship to *Epidermophyton inguinale,* but, on the other hand, similarity to the gypseum group.

As to the effect of pleomorphic degeneration on the fermentation reactions, we have only one definite observation which has been confirmed on more than one strain. This is that *Achorion schönleinii,* which, when freshly isolated, affects sugars feebly or not at all, after it has undergone pleomorphic change gives reactions similar to those of the gypseum group.

IDENTIFICATION OF UNKNOWN STRAINS

In a preceding report it has been shown that a test on Currie's agar with lactose and saccharose gave a fairly reliable indication as to whether or not a fungus isolated from the skin belonged to the ring-

TABLE 2.—*Characteristics of Three Groups of Ringworm Fungi*

	Mediums					
	Saccharose and Lactose (Double Sugar)		Mannite		Plain Currie's Agar (Control)	
Period of incubation.....	2 weeks	4 weeks	2 weeks	4 weeks	2 weeks	4 weeks
Ringworm fungi, Group A.....	0	0	0 or +	0 or +	0	0
Ringworm fungi, Group B.....	0	0	0 or +	++	0	0
Ringworm fungi, Group C.....	0	0	++	++	0	0
Saprophytic types.....	++	++	++	++	0	0

worm group. Even the detailed reactions shown in Table 1 fail to determine to which of the many varieties which have been given specific names it may belong. A single additional test on mannite, however, suffices to place it in one of the groups described, as shown in Table 2.

SUMMARY

1. It has been shown that the ringworm fungi utilize a certain group of carbohydrates.

2. On peptone-free mediums, with fermentable substances, some grow actively, others develop slowly and irregularly.

3. On the basis of their speed of fermentation, these fungi may be divided into three groups.

4. It is hoped that the reactions here described will be of aid in the identification of cultures. They are intended to supplement, not to replace, morphologic study.

DERMATOLOGIC PRESCRIPTION WRITING*

E. WOOD RUGGLES, A.M., M.D.

ROCHESTER, N. Y.

In no other branch of medicine is the skilful writing and compounding of prescriptions of so great importance as in dermatology. A rough or gritty ointment may irritate instead of relieve any inflammatory condition of the skin, and a lotion which is not properly compounded may lose all its therapeutic efficiency.

I have seen so many bad or indifferent results in cases in which the treatment prescribed should have acted favorably that I have been led to try to write all prescriptions so that "a wayfaring man, though a fool, may read." If compounded by a careful and skilful pharmacist, few prescriptions will go wrong. If unable to produce a good preparation, he will telephone and straighten out the difficulty. Poor, careless and indifferent pharmacists will follow directions regardless of what the product is—compatible or incompatible, gritty, slimy, or muddy, it is all the same to them.

Again, physicians are often careless in prescribing. They know that two or three remedies are useful in the treatment of a certain skin disease and, acting on the "shotgun" principle, they prescribe them all in the same preparation, without regard to their chemical behavior when mixed. For example: I have seen a prescription written by a member of this Association, containing ammoniated mercury and precipitated sulphur. This combination forms sulphid of mercury, a salt, which is not merely inert, but is yellowish at first, soon changing to dark brown or black. It not only stains the skin but fills the hair follicles, giving a dusky appearance which remains for many weeks and cannot be eradicated earlier.

When changing from one of these preparations to the other, as frequently happens when treating the scalp and sometimes the face, it is well to impress on the patient that he should wash thoroughly with soap and water before using the other remedy.

One should always consider, when prescribing two or three active remedies in the same mixture, whether or not they are compatible.

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* Read at the Forty-Sixth Annual Meeting of the American Dermatological Association, Ann Arbor, June 7-9, 1923.

It is also advisable to compound our remedies so that the resulting preparation may be as elegant as possible. Nearly all preparations which are efficacious in skin diseases are mussy, more or less disgusting to patients who are at all sensitive about their persons, and they soil the clothing. In prescribing ointments, especially those containing tar, the patient may be instructed to dust on talcum powder afterward, in most cases with considerable advantage. The smoothest and most pleasant ointment base consists of wool fat, ℥jss (6 gm.); cold cream, ℥vjss (25 gm.).

Lotions are always preferable to ointments, if it is possible to secure equally good therapeutic results by their use.

It is my purpose to present a number of examples of drugs requiring special treatment when compounded in order to secure elegance of preparation and efficacy in therapeutic action.

A great help in avoiding pharmaceutical pitfalls is the frequent use of the familiar expression "mix and add" when writing prescriptions which are not simple in composition.

We were instructed thirty years ago to prescribe first the active remedies, then the powders and lastly the oily or greasy base. This is generally exactly the reverse of the correct procedure. Powders should be rubbed up with the ointment base first, and drugs like phenol, salicylic acid, etc., which readily crystallize or disintegrate, last.

DRUGS REQUIRING SPECIAL TREATMENT WHEN COMPOUNDED

Phenol.—Many pharmacists are accustomed to drop phenol on a powder, rub it up and add the ointment base later. This should never be done, because the water of the solution is taken up by the powder and the phenol crystallizes, resulting in an ointment which is more or less rough. This can be detected by rubbing it with a spatula on a hard surface or between the thumb and finger. It is much safer to prescribe the powder and base first, write "mix and add" and then the quantity of phenol desired.

When phenol is combined with menthol, camphor or other remedies of this nature, the two should be rubbed up together first, producing a semiliquid mass, which is then rubbed up with the base before adding other remedies.

Balsam of Peru.—The drug which occasions more trouble in prescriptions than all others combined is Peruvian balsam. As a rule, an ointment which contains it refuses to be rubbed into the skin and rolls up into winrows which cannot be disintegrated. It should invariably be rubbed up with half the quantity of castor oil before being added

to an ointment base. My favorite prescription for scabies is the one given in Hardway and Grindon's textbook on "Cutaneous Therapeutics":

		Gm. or C.c.	
℞ 1	(Balsam of Peru	19|4	ʒ v
	(Castor oil	9|7	ʒ ijss
	Mix	|	
	(Precipitated sulphur	15|5	ʒ iv
2	(Wool fat	93|	℥ iij
	(Cinnamon oil	2|5	♏ xl
	Mix	|	
3	(Betanaphthol	3|9	ʒ j
	(Alcohol	11|6	ʒ iij
	Mix	|	

Mix 1 and 2 and add 3

Apply four (or three) nights in succession as directed.

The cinnamon oil disguises the odor of Peruvian balsam, which is so pungent and so diagnostic of scabies.

An ointment originated by Dr. Wende, which has extraordinary healing power and is of greatest value in the after-care of epitheliomas which have been treated by completely removing them by electrolysis or curettement and acid mercuric nitrate (Sherwell's method), as well as in many ulcers and wounds which are not healing as rapidly as they should, is prescribed as follows:

		Gm. or C.c.	
℞ 1	(Balsam of Peru	6|	ʒ jss
	(Castor Oil	3|	♏ xlv
	Mix	|	
2	(Yellow petrolatum	17|5	ʒ ivss
	(White wax	3|9	ʒ j
	Mix	|	
3	(Thymol iodid	3|	gr. xlv
	(Olive oil	1|9	♏ xxx

Mix 1 and 2, add 3

Apply daily as directed.

A prescription which has given me the most complete satisfaction in the cases mentioned above when exuberant granulations occur and retard prompt healing, or, as they occasionally do, project above the surface and, if not interfered with, produce a protuberant scar, is the following:

		Gm. or C.c.	
℞	Zinc chlorid	5|	ʒ j gr.xv
	Water	31|1	℥ j
	Hydrochloric acid	|6	♏ x

Its action is inestimably better than that of lunar caustic, as it produces no eschar which has to slough away, retarding healing; and one is surprised on dressing a lesion a day or two later to see how the reparatory process has advanced. It is also the best caustic in chancroid, except the actual cautery, and is superior to this in moderately severe cases.

Crude Coal Tar.—Dr. White's admirable prescription for infantile eczema, which I regard as one of the greatest advances in dermatologic therapeutics since Lassar's paste, is, nevertheless, a variable preparation often containing lumps or hard, crystalline masses. With a certain grade of coal tar it gives a smooth ointment, but, as a rule, the product is unsatisfactory. There is a great need of standardizing the production of crude coal tar and securing a preparation which is uniform and capable of making a good ointment.

Resorcin.—In prescribing resorcin, it is preferable to add an equal quantity of alcohol or water and write beneath "mix and add," and incorporate it with the ointment base before adding the other ingredients. For instance, my favorite and most effective prescription for seborrheic eczema of the scalp is:

		Gm. or C.c.	
℞	Resorcin	1|9	
	Alcohol	1|9	āā ʒ ss
	Mix and add		
	Wool fat	5|8	ʒ jss
	Rose ointment	21|3	ʒ vss
	Precipitated sulphur	3|9	ʒ j

Beta Naphthol.—Beta naphthol should be combined with three parts of alcohol before being added to the other ingredients of an ointment and then rubbed up with the ointment base.

In prescribing tar ointment, it is advisable to employ a certain proportion of wool fat, as the ointment is rendered smoother. The salve for epidermophytosis I now prescribe as follows:

		Gm. or C.c.	
℞	Zinc oxid	5|8	ʒ jss
	Wool fat	7|8	ʒ ij
	Tar ointment	11|6	ʒ iij
	Rose ointment	9|7	ʒ ijss
	Mix and add		
	Phenol	1|	♏ xv

Oil of cade and oil of birch make much smoother ointments.

Petrolatum and fatty bases containing over 5 per cent. of water, such as cold cream and hydrous wool fat, should not be used alone with balsams and crude coal tar. If used at all, an equal quantity of wool fat should be employed. The best bases are wool fat and benzoinated lard (fresh).

Thymol Iodid.—This should be rubbed with oil till smooth before adding the base in order to insure a smooth ointment. Commercial thymol iodid is inferior to some of the proprietary preparations with which it is claimed to be identical. Such products need to be improved as they are not fit for use in an ointment.

Chrysarobin.—This should be rubbed with half its weight of an oil before adding to a fatty base.

		Gm. or C.c.	
℞	Chrysarobin	1|5	gr. xxiv
	Olive oil	|75	♏ xij
	Mix and add		
	Petrolatum	31|1	℥ j

Ammoniated Mercury.—This should always be rubbed up first with an equal quantity (by weight, not bulk) of olive oil before being added to the remainder of an ointment, as otherwise gritty particles may impair its efficacy. There is an impalpable powder manufactured at present which obviates much of this difficulty, but all pharmacists do not carry it on account of expense or carelessness.

An agreeable prescription for impetigo contagiosa can be compounded as follows:

		Gm. or C.c.	
℞	Ammoniated mercury.....	|8	gr. xiiss
	Olive oil	1|	♏ xv
	Mix and add		
	Wool fat	5|8	℥ jss
	Rose ointment	25|2	℥ vjss

Other Drugs.—Acids, including salicylic acid, should never be prescribed with bases containing water, such as cold cream or hydrous wool fat, as the water in this type of preparation is held in suspension in the form of a solid emulsion. Acids split this emulsion and an unsightly mass is the result in a short time. Wool fat is anhydrous.

Sulphur gives no trouble in ointments except those which require heating to compound, for example, when they contain wax. Sulphur melts at a low temperature.

Yellow or red mercuric oxid must never be used on the lids when employing argyrol in the eyes. A chemical reaction ensues, resulting in decolorization of the argyrol, which causes an extremely severe conjunctivitis. This has occurred several times in the practice of a local oculist. He accused the pharmacist of putting up the prescription wrongly, whereupon this discovery was made.

Camphor should be dissolved in chloroform before being added to a powder. Anderson's dusting powder should be prescribed as follows:

		Gm. or C.c.	
℞	Camphor	1|9	℥ ss
	Chloroform to dissolve.....	|	
	Starch	31|1	℥ j
	Zinc oxid	23|3	℥ vj

Triturate with starch until chloroform odor disappears and add zinc oxid.

If camphor is rubbed up with a powder directly, it will mass into granules.

Lotions containing phenol should carry a small quantity of glycerin to insure miscibility.

Menthol should be rubbed up or dissolved in a solvent miscible with the other ingredients in the lotion.

Olive oil when used in an emulsion must carry an equal quantity of lime water or other emulsifying agent.

Calamin liniment, which is a most valuable preparation for acute inflammatory conditions of the skin especially where there is severe burning, should be prescribed as follows:

		Gm. or C.c.	
℞	Zinc oxid	31|1	ʒ j
	Pulverized calamin	42|7	ʒ xj
	Olive oil	250|	ʒ viij
	Mix and add	|	
	Phenol	5|8	ʒ jss
	Lime water to make	500|	ʒ xvi

If not prepared in this manner, a poor emulsion will be the result, and the preparation will never be twice the same.

A lotion suggested by Dr. Stelwagon, which frequently saves one from the mussiness attending the use of an ointment and is equally soothing and curative in many cases, is also likely to produce a poor emulsion unless compounded as follows:

		Gm. or C.c.	
℞	Zinc oxid	15|5	ʒ iv.
	Olive oil	124|4	ʒ iv
	Mix and add	|	
	Acacia mucilage	7|8	ʒ ij
	Phenol	3|9	ʒ j
	Lime water to make	250|0	ʒ viij

Shake well.

In compounding the familiar lotio alba, it is important to dissolve each of the two ingredients in half of the water and mix the two solutions.

When a better preparation of sulphurated potash is obtainable, the solution can be used without filtering, but not at present. The prescription follows:

		Gm. or C.c.	
℞	1 (Zinc sulphate	3|9	ʒ j
	(Rose water	62|2	ʒ ij
	Mix	|	
	2 (Sulphurated potash	3|9	ʒ j
	(Rosewater	62|2	ʒ ij
	Mix and filter		

Mix 1 and 2. Shake well.

Lotio alba comp. should be prescribed as follows:

	Gm. or C.c.	
1 (Zinc sulphate	3 | 9	℥ j
(Rosewater	62 | 2	℥ ij
Mix		
2 (Sulphurated potash	3 | 9	℥ j
(Rosewater	62 | 2	℥ ij
Mix and filter		
3 (Precipitated sulphur	5 | 8	
(Alcohol	5 | 8	āā ℥ jss

Mix 1 and 2, rub 3 smooth in mortar. Add 1 and 2 mixture gradually by trituration.

In prescribing Startin's mixture, it is preferable to add 3 drams (11.6 gm.) of alcohol to 4 ounces (124.4 gm.). Otherwise the solution will throw down a precipitate in a few days which at least impairs the patient's confidence, whether or not it interferes with its therapeutic action.

For several years I have been using the following modification of Startin's mixture in eczema and am convinced that it assists the local treatment appreciably, although, as a rule, I am skeptical about the internal treatment of most skin diseases. A good many patients state that they feel much improved physically from its use and employ it as a tonic afterward.

	Gm. or C.c.		
℞ Magnesium sulphate	23.3-31	1	℥ vj-℥ j
Ferrous sulphate		65	gr. x
Diluted sulphuric acid	3	9	℥ j
Rectified spirits of wine	11	6	℥ iij
Infusion of quassia to make	124	4	℥ iv

Teaspoonful in water three times a day after meals.

In prescribing ointments, it has long been my custom to use such quantities of the different ingredients that the mixture will approximately fill a 1, 2, 3 or 4 ounce jar.

This is done for two reasons: first, because the pharmacist will charge the same for 1⅓ to 1⅔ ounces (41.4 to 51.7 gm.) as for a full 2 ounces (62.2 gm.); and second, because I estimate percentages not according to weight, but according to bulk.

This requires a little extra thought and care but is easy when one remembers that a powder will add only about one third of its weight in actual volume, and, if rubbed up with alcohol or water, only one half of the combined weights. For instance, in prescribing Lassar's paste, I use the following formula:

	Gm. or C.c.		
℞ Zinc oxid			
Starch			
Petrolatum			
Rose ointment	11	6	āā ℥ iij

This just fills a one ounce (31.1 gm.) jar.

If, as generally, I add phenol, I write beneath

Mix and add phenol		6	♏ x

Many skins are irritated by petrolatum when used as the sole ointment base, and it is preferable to combine it with an equal or larger quantity of cold cream.

It is well to specify petrolatum U. S. P. for ointments, as many grades are used, some of which are of very poor quality.

When prescribing an ointment containing tar, it is advisable to direct the patients to cleanse the skin with absorbent cotton and olive oil or sweet oil before applying it again. Otherwise irritation is likely to ensue.

DIRECTIONS

An error which we all commit daily is to give insufficient or misleading directions to patients. In April last, a young woman for whom I had prescribed Lassar's paste, applied a thin piece of muslin between it and the skin as one often uses a poultice. On my expressing surprise at the slight relief obtained after three days' use, she inquired whether I had intended to apply the paste directly on the skin. This was partly due to her stupidity, but I should have given her more explicit directions.

The directions which one gives verbally to patients are frequently misunderstood and frequently forgotten, and on the patient's telephoning for further instructions, one is often surprised at his confusion regarding the measures he should employ. I endeavor to write the directions carefully and fully and always have a supply of typewritten copies of instructions which I give to patients with prescriptions for remedies requiring particular methods of employment, such as applying a mask with Lassar paste, the details accompanying the use of White's crude coal tar ointment, etc. This is a copy of instructions given to patients with scabies:

1. Hot bath twenty minutes, using green soap.
2. Rinse, dry and rub in dark ointment from neck to toes, hard where worse.
3. The three (or two) nights following use dark salve without bath.
4. Use white ointment (zinc oxid, phenol or phenol and menthol) whenever itching occurs, on the parts which itch. Besides this, use it three or four times a day on all parts which are red and inflamed.
5. On the fifth night: Take hot bath with toilet soap, put on regular underclothing and bed linen, and use only light ointment for four days.
6. When taking hot bath, remove underclothing, socks and bed linen and boil these the next day for ten minutes. After the bath and dark salve put on old underclothing, socks and bed linen and use these day and night until toilet soap bath. Wash this underwear, bed linen, etc., boil them and keep for use the next time you use dark ointment.

Return to office in eight days.

This paper may be criticized by some of the members, mentally at least, as being too fussy. Were all pharmacists capable, careful and

conscientious, there would be good grounds for this attitude. I believe, however, in the maxim "Safety first," when so much of the success of treatment depends on the character of the remedies employed.

348 University Avenue.

DISCUSSION

Dr. Grover W. Wende, Buffalo: Many years ago I used to write the prescription recommended by Dr. Ruggles for the treatment of scabies, with no special directions to the pharmacist for its preparation, and frequently the remedy would roll into balls and fall off, and on this account I stopped prescribing it. Since adopting the suggestion of Dr. Ruggles I have received no complaint of trouble. Many of the suggested prescriptions are more than excellent; I wish especially to emphasize the one suggested for impetigo. We can make no mistake in following the advice given by Dr. Ruggles, for I know from personal experience that the prescriptions are well worth while.

Dr. Harvey P. Towle, Boston: Dr. Ruggles has taken up the study so often neglected, the elegance of the prescription. There is no harm in having the preparations we prescribe well compounded, clean and attractive.

One of our difficulties has been in regard to using crude oil. We have found that if we mix the crude coal tar and zinc oxid together and let it stand for twenty-four hours the interaction ceases, after which we may mix the starch and petrolatum and get a smooth preparation. One way of avoiding the long wait is to begin the mixture and squeeze the crude coal tar through a fine mesh cloth a number of times, then add the zinc. A few hours then suffices to complete this preparation.

Dr. James Herbert Mitchell, Chicago: I should like to inquire whether any of the members have used the Danish ointment for scabies which was described by Lomholt in 1921. I have used it with excellent results. It shortens the treatment to one day, and in my experience is much less likely to produce a sulphur dermatitis. The ointment is highly complex and difficult to make, and I should like to know whether Dr. Ruggles has experienced any difficulty with its preparation.

Dr. C. Guy Lane, Boston: At the Massachusetts General Hospital, Dr. Greenwood has recently treated a number of patients with this Danish ointment, and he is planning to issue a report in regard to its value. The treatment is carried out by the visiting nurse who goes into the home, as well as supervising the treatment at the hospital. I do not know the exact formula. I know that there have been recurrences, but how it compares with other methods of treatment I do not know.

Dr. William H. Guy, Pittsburgh: I wish to call attention to the cream suggested by Dr. Ruggles in a previous communication.

In filling this prescription at that time we found a little grittiness or lumpiness in the preparation. In investigating the cause, our chemist said that there was an excess of stearic acid. By modifying the amount of potassium carbonate and making it one to four, thus giving a slight excess of potassium carbonate, we obtained a perfectly smooth ointment. An alternate preparation of value may be obtained by substituting tragacanth for the quince seed. We find this particularly useful on dry, irritable skin.

DR. E. WOOD RUGGLES, Rochester, N. Y.: I have nothing to add except that, in regard to the Ruggles cream, Dr. Guy showed me these preparations. They are certainly smoother, but they do not rub in as well as the original preparation, as they leave a glycerin stickiness. I have labored with the druggists to get them to overcome the slight grittiness, but I do believe Melvin and Badger's preparation is preferable in that it can be rubbed entirely into the skin, and it certainly gives good results.

THE SPECIFIC SPIRILLICIDE EFFECT OF ARSPHENAMIN

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AND

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Both the nucleins and the basic albumins of the dead cell are capable of binding arsphenamin preparations. The entire molecule is thereby bound in toto; neither a fixation of arsphenamin by an ortho-aminophenoloceptor nor by an arsenoceptor takes place in the dead cell. Chemically, additional salts are formed. The high reducing capacity of arsphenamin is due to one hydroxyl and one amino group, both of which still retain this capacity after the binding of the molecule to the cell.

The living cell does not bind arsphenamin; however, it binds oxidation products which again in vivo develop gradually in statu nascendi out of the former.

Spirochaeta pallida is a parasite which is free from nucleinic acid and consequently poor in oxygen, while the body cell must be considered rich in oxygen as it contains primary oxygen centers as described by Unna. The pharmacologic effect of arsenicals is due to the hindering influence of arsenic on oxidation and oxidative synthesis. In a certain concentration in the blood, the spirochetes succumb to this effect at a time when the body cells have not yet been damaged to any similar extent. This difference in the chemical structure between the body cell and the spirochete cell accounts for the specific effect of arsenic. It is not based on a different chemical affinity, but is of a pharmacologic nature. It is therefore more logical to speak of a pronounced spirillitoxicity and a feeble organotoxicity of arsphenamin. The strongest therapeutic effect is therefore found in those arsenic compounds that have a strong reducing effect and that consequently make best use of the differences mentioned. For this reason aminophenolarsenoxid and arsphenamin have the most favorable therapeutic index: $\frac{1}{20}$ and $\frac{1}{50}$. The reduced toxicity of arsphenamin compared with aminophenolarsenoxid is due to the fact that Ehrlich by creating the chromophore As-As deprived arsphenamin of its pronounced toxic effect, which characterizes its strongly spirillicide decomposition products, the arsenoxids, as these can only develop slowly in the body in statu nascendi out of arsphenamin, owing to the chemical constitution of the latter.

Arsenic compounds of a basic nature are most effective; they are almost exclusively represented by those in which arsenic has three valences, while compounds which are more acid have a dystherapeutic effect. In these the arsenic has five valences as a rule.

It follows that a chemotherapeutic antisyphilitic agent must meet the following demands: The agent as such, or rather its decomposition product which gradually develops in vivo, must be capable of a chemical reaction with the living cell; it must prevent oxidative syntheses and must also have a strong reducing effect to enable an optimum influence. The agent must, furthermore, be of a pronounced basic nature, possibly free from acid groups (no carboxyl or sulphurated derivatives) for the reasons above mentioned.

Antimony and vanadium compounds which chemically meet these demands have a good therapeutic effect, as has already been proved by the empirical results obtained from animal experiments. Other preparations which meet these demands and which may be expected to have a good therapeutic effect will be prepared, and will be tested in animal experiments.

NONSPECIFIC THERAPY IN SYPHILIS

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The therapeutic results obtained in a large number of diseases from parenteral administration of "stimulation bodies," in particular nonspecific proteins, have led to extensive investigations into the changes of the serum and the cell plasm caused by these. While research work in this direction is only in its initial stage, it can already be said that the changes caused as a response to nonspecific protein stimulation are always the same in infectious diseases, no matter what may be their etiology. Thus an increase of fibrinogen was found in syphilis (Winternitz), in acute infectious diseases (Pfeiffer, Gerngruen), after injections of albumin and peptone solutions (Loewy, Modrakovsky, Orator, Moll), after injections of bacteria bouillons (Langstein, Meyer, Mueller), and in the serum of pregnant women (Landsberg, Kroesing). Reiner, in particular, points out the close relationship of the processes in infectious diseases to the increase of fibrinogen which runs strictly parallel with an increased suspension stability and an increased stability of the serum colloids. In addition, besides fibrinogen, an increase in the serum of albumin decomposition products has also been observed. Thus Hahn found the "double nitrogen" increased in tuberculosis, secondary syphilis and pustular diseases. Two other important observations must also be mentioned in this connection: The first we owe chiefly to the careful studies of Reiner, who found a quality of the serum which apparently in the same diseases runs parallel with those described above, namely, the increased antitryptic titer, as well as the antihemolytic capacity of the serum. The second refers to the increased sinking velocity of the red blood corpuscles, which, according to Fahrens, depends on the increased agglutination capacity of the plasma and serum in certain patients. This observation has been made during the last few years in tuberculosis, syphilis and acute infectious diseases of various kinds. The increase of this sinking velocity of the red blood corpuscles has a distinct relation to the presence of increased albumin decomposition products in the serum and the urine. Hence Herzfeld and Klinger originated the hypothesis that the stability of "biocolloids" (which include the suspensions of blood corpuscles and therefore the blood itself) is due to the stabilizing influence of absorbed albumin decomposition products. If these decomposition products are bound by any physicochemical factor, the colloid is precipitated. This again coincides with the investigations of Reiner, who believes that the stability of

the red corpuscles suspended in serum depends on the presence and the quantity of certain albumin decomposition products. However, Reiner also found that the nature, that is, the chemical peculiarity of these decomposition products, is of great importance; also that in a sense the albumin substances regulate the albumin decomposition products, provided the H-ion concentration is the same. It also appears probable from Reiner's investigation that the entire system takes part in this regulating influence on the decomposition products. In a careful series of experiments, H. Freund showed that one must indeed assume the participation of the entire system in these processes. This coinvolvement had, in fact, already been observed in the course of diseases which had been influenced by parenteral injections of proteins and which is best expressed by the word "Umstimmung" which designates a change in the tone of the body. In this connection, we may add that Reiner has also proved that the albumin decomposition products contained in the urine under pathologic conditions (chiefly after infectious diseases) and which are generally considerably increased, account for the serum alterations mentioned.

Investigations along these lines are by no means complete; this difficult field, in fact, is practically unexplored. Yet the results of investigation mentioned already direct the course of our therapy. The parallel response of the serum to the injection of protein bodies as well as to the presence of a seropositive syphilis is remarkable, and explains the beneficial therapeutic results attained recently in the treatment of this disease by parenteral stimulation bodies. It was chiefly Nourney who endorsed this method and reported the first positive results with the introduction of his autohemic therapy. These injections of the patients own blood are essentially a different parenteral administration of mixtures of protein substances for the purpose of increasing the immune biologic capacity of the body. The same effect is attained in a more practical way by the injection of milk proteins.[1] While the spirochetes and their elimination products already stimulate the defensive action of the system to a certain extent, it is a question of increasing this stimulation. Thus we arrive at the practical conclusion that all spirocheticide therapy should be supplemented by stimulation of the natural immune biologic forces of the body in every case of primary syphilis, and particularly in all seropositive cases. The bismuth compounds which have recently been introduced in syphilis therapy, according to the experience of Bloch as well as our own, appear to act essentially through nonspecific stimulation, especially in sypihilis of the nervous system.

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1. Ahlswede: Nonspecific Protein Therapy, Arch. Dermat. & Syph. **5**:586 (May) 1922.

As to the dosage and method of administration of protein bodies, my experience has shown that one intragluteal injection of 10 c.c. of a milk protein solution at the beginning of a "course" of specific antisyphilitic treatment is sufficient to guarantee an effective stimulation of the defensive action of the body. As soon as the effect manifests itself by a general reaction or a change in the blood picture, the specific treatment should begin. It is not advisable to repeat the protein injections until after ten days to avoid tiring of the body. This tiring of the system can in extreme cases cause a proteinogenous cachexia. As no hard and fast rules can be laid down in nonspecific treatment, the stage of the disease and chiefly the general condition and resistance of the patient must be given careful consideration, since every person responds differently to the same stimulation. In most seropositive cases, and particularly in late secondary stages, I have seen beneficial results from a combination of protein injections and autohemic injections, according to the method of Nourney. In cerebral syphilis we have seen surprising results in fifteen cases from a combination of bismuth, autohemic injections and an organic iodin compound medication.

The stimulating effect of intragluteal injections of nonspecific proteins can also be attained, though perhaps in a less practical way, by physical therapeutic measures. Thus, exposures to ultraviolet rays, faradic current and high frequency treatment also increase the defensive action of the body in the sense of Weichardts "activation of the cell-protoplasm."

SUMMARY

Specific spirocheticide therapy, particularly in seropositive syphilis, should be supplemented by general nonspecific protein stimulation of the body.

Abstracts from Current Literature

ELEPHANTIASIS: A CLINICAL REVIEW AND AN ATTEMPT AT EXPERIMENTAL REPRODUCTION. G. D. MAHON, Am. J. M. Sc. **165**:615 (June) 1923.

A review of previous work is given and also a description of the attempted reproduction. Mahon believes that the connective tissue hypertrophy and stasis are due to pathogenic bacteria. In general, there are two groups, one with erythema and adenitis, the other without any local evidence of infection. Predisposition to elephantiasis could be caused by anything producing venous stasis, although central lymphatic blocking probably does not produce a permanent peripheral stasis.

He concludes that inflammatory change may be excited by the parent filaria, the elephantiasis being produced by pathogenic bacteria, while the filaria is a predisposing factor.

A CASE OF COMBINED PELLAGRA AND BERIBERI. R. W. MENDELSON, J. Trop. Med. **26**:6 (Jan. 1) 1923.

This case is reported on account of the presence of the two diseases simultaneously, and because no other case of acute pellagra had been reported in Siam.

THE TREATMENT OF LEPROSY BY THE INTRAVENOUS INJECTION OF CHAULMOOGRA OIL. PHILIP HARPER, J. Trop. Med. **26**:7 (Jan. 1) 1923.

This is a continuation of previous reports regarding the intravenous use of chaulmoogra oil on lepers at Makogai. Of 265 patients, twenty-eight were improved, five of these having been discharged from the asylum.

Tartar emetic, sodium hydnocarpate and sodium morrhuate were ineffective, and it is believed that the treatment by intravenous injection of chaulmoogra oil is of value, especially in early cases. From 5 to 10 minims (0.3 to 0.6 c.c.) of crude sterilized chaulmoogra oil were given every day but Sunday for three weeks at a time, with rest periods of two weeks between.

LICHEN PLANUS HYPERTROPHICUS IN THE SUDAN. R. G. ARCHIBALD, J. Trop. Med. **26**:179 (June 1) 1923.

This is the report of a case of this disease in which the lesions were distributed over the forearms, legs, thighs, dorsa of the feet, soles, palms, glans and scrotum. No previous report of a case of this type had been made, although lichen scrofulosorum had been described. The patient whose case is reported had lesions of the planus, linearis and sclerosus varieties.

ERYTHRODERMA CONGENITALE ICHTHYOSIFORME IN AN ARAB CHILD. R. G. ARCHIBALD, J. Trop. Med. **26**:180 (June 1) 1923.

This case, the first to be described occurring in the tropics, presented a generalized ichthyosis accompanied by erythroderma, the only areas unaffected

being the palms, anterior aspect of the neck and the inner surface of both thighs. Both the ichthyosis and the erythroderma varied in intensity in different areas.

XANTHOMA TROPICUM (JUXTA-ARTICULAR NODULES). R. W. MENDELSON, J. Trop. Med. **26**:181 (June 1) 1923.

It is suggested that xanthoma tropicum replace the descriptive term of juxta-articular nodules, as it appears to him that the disease could be classified as a xanthoma and is limited to the tropics and subtropics. While the etiology is obscure, the author believes that some undetermined pathologic metabolic process is the origin of the tumors.

The nodules varied greatly in size, were hard, usually very smooth and often adherent to surrounding tissues. Microscopically, they appeared as a simple fibroma.

DERMAL LEISHMANOID. U. N. BRAHMACHARI, J. Trop. Med. **26**:182 (June 1) 1923.

This is a rare dermatosis which sometimes develops from kala-azar after antimonial treatment. The eruption consists of small papillomatous nodules on the face, a slight erythema on the face and forehead, and on the trunk and extremities are slightly raised brownish patches. The nodules contain Leishman-Donovan bodies.

NOTE ON THE ETIOLOGY OF "CUTE." A. CASTELLANI and H. TEJERA, J. Trop. Med. **26**:184 (June 1) 1923.

This is a Venezuelan skin disease characterized by bright yellow patches, slight desquamation and no tendency to spontaneous cure. Microscopically, a fungus was found which appeared to be identical with that of *Tinea flava* of Ceylon, previously described by Castellani.

ACLADIUM CASTELLANI (PINOY). R. CRAIK, J. Trop. Med. **34**:184 (June 1) 1923.

The author gives a description of the fungus and its growth on various cultures.

TRICHOMYCOSIS AXILLARIS FLAVA, RUBRA AND NIGRA. A. CASTELLANI and A. G. WILKINSON, J. Trop. Med. **26**:186 (June 1) 1923.

This condition has been found in Europeans who had come from Ceylon and even in some who had not left London. The characteristic symptoms were yellow, red or black nodules which could readily be determined with sodium hydrate solution.

Cold climates generally caused a spontaneous cure, but local applications of an alcoholic solution of formaldehyd followed by a 2 to 5 per cent. sulphur ointment were quite efficacious.

THE ETIOLOGIC FUNGI OF TINEA VERSICOLOR AND TINEA FLAVA. F. SCHMITTER, J. Trop. Med. **26**:190 (June 1) 1923.

The author gives a description of the cultural and microscopic appearance of Malassezia furfur and Malassezia tropica.

PHOSPHORUS IN THE TREATMENT OF DERMAL LEISHMANIASIS. A. CASTELLANI, J. Trop. Med. **26**:194 (June 1) 1923.

The author has treated four patients suffering with leishmaniasis with injections of phosphorated oil, injecting 5 minims (0.3 c.c.) into and under the lesion around the periphery, with excellent results in all. The oil should be freshly prepared and given once or twice a week, a cure being expected in from three to eight weeks.

A DISCOURSE ON THE OUTBREAK OF ALASTRIM IN ANTIGUA. E. W. R. BRANCH and W. M. MCDONALD, J. Trop. Med. **26**:214 (June 15) 1923.

This is an account of an outbreak of this disease and the methods of controlling it. In the opinion of the writers, the exanthem is very much like smallpox, and the disease is prevented by vaccination. It appears to bear the same relation to variola that paratyphoid does to typhoid.

BLOOD STUDIES IN SMALLPOX, WITH SPECIAL REFERENCE TO ALASTRIM. W. H. HOFFMAN, J. Trop. Med. **26**:217 (June 15) 1923.

The erythrocytes varied in number only; the hemoglobin was decreased slightly, the leukocyte count varying the most. A leukopenia was present during the first few days, rising to an average of 17,000 from the ninth to the fourteenth day of the disease. During the third week the leukocyte count was still high, and gradually diminished during the succeeding weeks. During the whole period the percentage of polymorphonuclears was much below normal.

DISCOVERY OF A NEW TYPE OF GERM ISOLATED FROM CASES OF MEASLES AND SCARLET FEVER (MINUTE GRAM-NEGATIVE ANAEROBIC DIPLOCOCCUS). DAVID THOMSON, J. Trop. Med. **26**:227 (July 2) 1923.

A minute diplococcus was isolated in pure culture from cases of measles and scarlet fever. It grew only anaerobically on culture mediums containing plasma, whole blood, hydrocele fluid or testicular extract, and was a gas producer. In size it was much smaller than a gonococcus, was also gram-negative and a true diplococcus. No definite statement was made to the effect that this organism was the cause of either measles or scarlet fever.

GRANULOMA INGUINALE. MILTON WEINBERG, J. Urol. **9**:505 (June) 1923.

A number of cases were found apparently indigenous to South Carolina, and the author believes that the disease commonly occurs in certain districts of the United States. While of yet undetermined origin and mode of transmission, it is much more frequent in negroes, a positive diagnosis being possible when the Donovan bodies are found. Biopsy is not sufficient to determine the diagnosis as the writer believes that the Donovan bodies are not constant in all cases or else cannot be demonstrated. The therapeutic test, treatment by tartar emetic, he considers indicative of granuloma inguinale. Clinical experiments have not reproduced characteristic lesions, nor has artificial cultivation produced identical organisms.

THE COMPLEMENT FIXATION REACTION AS APPLIED TO LEPROSY. P. A. Lewis and J. D. Aronson, J. Exper. Med. **38**:219 (Aug.) 1923.

Using serum from forty-five cases of leprosy and many controls, it was found that the use of the complement-fixation reaction for the determination of the specific organism was not satisfactory as the leprous serum fixed a wide range of antigens. Many serums were fixed, using tuberculous or syphilitic antigens, but this should not be taken to imply the presence of these two diseases. Certain antigens which had failed to react with serum from tuberculous or syphilitic cases reacted with leprous serums, even to the extent of 93 per cent. The antigen giving the most characteristic fixation with leprosy serum is that formed by *Bacillus leprae* (Clegg).

LEISHMANIA DONOVANI IN THE PERIPHERAL BLOOD. C. W. Young and Helen M. Van Sant, J. Exper. Med. **38**:233 (Sept.) 1923.

An investigation of cases of kala-azar was made, showing that positive cultures could be obtained in 90 per cent. of untreated cases if most of the serum and blood cells are removed by centrifugalization. Positive results could also be obtained from peripheral blood in as many cases as from spleen puncture. It was also found that patients who had received about 12 mg. of antimony per kilogram of body weight became free from cultivable *Leishmania donovani*.

STUDIES ON X-RAY EFFECTS. XIII. HISTOLOGICAL STUDY OF THE FATE OF CANCER GRAFTS INOCULATED INTO AN X-RAYED AREA. W. Nakahara, J. Exper. Med. **38**:309 (Sept.) 1923.

A cancer cell implanted in a skin region previously irradiated showed degenerative changes comparable to the stages of degeneration of cancer cells in which the roentgen-ray had been administered directly to the cells. It could not be proved microscopically that the roentgen-ray was the principal factor in the therapeutic action of roentgen-rays on cancer.

Jamieson, Detroit.

Society Transactions

AMERICAN DERMATOLOGICAL ASSOCIATION

Clinical Session, June 8, 1923

LICHEN RUBER PLANUS. Presented by Dr. Wile.

A woman had an eruption which began twelve years ago on the wrist, and which had spread to other parts of the body. It had been uninfluenced by either mercury or arsenic, or by any external applications. The case was shown for suggestions as to the possibility of some other diagnosis and for therapeutic suggestions.

DISCUSSION

Dr. George Henry Fox said that he was especially interested in this case, and that he believed it was not lichen ruber of Hebra. He had considered lichen planus, but although it had the color and the distribution on the forearms that was often seen in lichen planus, he decided that it was an urticaria pigmentosa, although there was not much irritability of the skin.

Dr. Fox said that, with all respect to Dr. Wile, he would say there was no such disease as "lichen ruber planus." This name was coined by Kaposi when he tried to show that the lichen planus of Wilson was a localized form of lichen ruber. On the other hand, some Englishmen claimed that lichen ruber of Hebra was simply a generalized lichen planus. It was known now that these two diseases possess distinct clinical features. It seemed odd to Dr. Fox to think that in two years' study with Hebra he had never seen a case of lichen planus, and Hebra in his book, wherein he described everything so accurately, gave no description of the lichen planus so magnificently described by Wilson. Dr. Fox remembered seeing a hospital case shown him by Tilbury Fox as lichen ruber, which he felt sure was not the lichen ruber he had seen in Vienna, but a lichen planus of unusual extent.

Dr. Wile said he had no intention to defend the diagnosis of lichen planus, but he thought that none of them had examined the patient's legs. From her knees down she had the typical eruption of lichen planus. It looked nothing like the eruption on the arms. He was willing to accept the diagnosis of urticaria pigmentosa. The woman had had a great deal of treatment, and it was with the hope of receiving some therapeutic suggestions rather than of clearing up the diagnosis that she had been presented.

Dr. Howard Fox said that he agreed with the diagnosis of urticaria pigmentosa was a mast cell neoplasm. Few of these cases have been seen in which had been entirely cleared up with this treatment.

Dr. MacLeod said he thought the case belonged to the group that was known as adult urticaria pigmentosa. The advisability of naming the condition urticaria pigmentosa was an academic matter. The ordinary urticaria pigmentosa, and for therapy he suggested the roentgen ray. He had had a case London dermatologic circles, and in none of them have mast cells been found.

He thought Dr. Wise had said he had found this cell at one period. In one case the eruption had been present only about one year, and there was no sign of mast cells. It looked very much like an urticarial disorder leaving pigmentation. Dr. MacLeod thought the matter of the nomenclature was a purely academic question.

ACANTHOSIS NIGRICANS. Presented by Dr. Stevens. (By invitation).

A woman, aged 36 years, an American, presented areas of pigmentation on the sides of the neck of twelve years' duration, which had been followed by the appearance of similar areas in the axillae, submammary region, genitalia, thighs, groins, forehead and popliteal spaces. These areas were composed of minute warty growths; the whole surface was lined and gave a wrinkled appearance. The pigment in some places was a deep brown or black. There had been a discharging sinus in the groin following an abscess in 1905, which a roentgenogram showed to have been a psoas abscess of unknown origin without involvement of the vertebrae.

DISCUSSION

Dr. Pollitzer had made only a cursory examination, but he was convinced that they were dealing with a case of acanthosis nigricans, though not a highly developed case. There was not as much acanthosis as one would find in well marked cases, and he doubted very much whether they would ever find in this woman all the typical areas of acanthosis nigricans. The lesions on the lips, the little papules, had nothing to do with the disease, but were merely sebaceous glands.

Dr. Stevens said he did not think there was anything that could be added, except that there did not appear to be any pathologic condition of the vertebrae in this case. They had injected the sinus in the groin with Beck's paste up to the first lumbar vertebra, but several examinations had failed to reveal any pathologic condition there, so that the source of the abscess appeared to be in the soft tissues. What the nature of the origin of the abscess was, therefore, they could not say. It was interesting as exhibiting a probably nonmalignant abdominal pathology associated with acanthosis nigricans.

POIKILODERMA ATROPHICANS VASCULARE. Presented by Dr. Wile.

A woman, aged 43 years, had an eruption which had begun twenty-seven years before on the legs and had gradually progressed without any symptoms until at the time of presentation it extended over almost the entire body. When first seen by Dr. Wile in 1919, there had been a considerable degree of desquamation, but no atrophy. Atrophy had apparently occurred during the last year or two.

DISCUSSION

Dr. MacLeod said this case was identical with one that had been described and worked on by Dr. Colcott Fox and himself about twenty years ago. That case they had labeled "parakeratosis variegata," which was a name that had been used by Unna and others in connection with a case that had been shown in Edinburgh before the British Medical Association some years before, and that was accepted as a variety of the parakeratosis group. He had never seen the poikiloderma cases but had read of them, but this case was what they called parakeratosis variegata. They had had one or two cases since. These cases all had the same vascularity, with slight atrophy and scales, and microscopically

the parakeratosis was so slight as not to be called parakeratosis, and he did not suppose it ever would have been if Unna had not been connected with it. Dr. MacLeod had an indifferent photograph of it in a little textbook which he had published.

Dr. Pollitzer said that he had published the first recorded case of parakeratosis variegata in conjunction with Dr. Unna in 1890, and since that time he had seen a few cases resembling the one before them presented at dermatologic gatherings with the diagnosis of parakeratosis variegata, none of which bore anything but the most superficial resemblance to the case described by Dr. Unna and himself. He asked Dr. Wise, who had reported two cases similar to the one under discussion, which Dr. Pollitzer had had the pleasure of examining histologically, to tell them what the disease was, and simply said that it was not parakeratosis variegata. That was a disease which at first glance one might mistake for a lichen. The appearance suggested atrophic areas in the meshes of a network of lichen planus, but there was no atrophy. The first case described had been referred to Unna's clinic by Besnier, at that time the foremost dermatologist of France, who had suspected that it was some form of lichen. Histologically it did not belong to that group; and they recognized the fact that they were dealing with a previously undescribed disease. A similar case had later been described by Juliusberg, who had proposed the name of parapsoriasis lichenoides. So far as this case was concerned, Dr. Pollitzer did not think it was poikiloderma. Its obvious vascular character, however, sufficed to exclude the diagnosis of parakeratosis variegata.

Dr. Wise said he thought the dermatosis was an almost exact replica of the case Dr. Pollitzer and he had described about ten years ago as angioma serpiginosum. Since then at least six cases had been presented before American dermatologists, in some of which a discussion had arisen as to differential diagnosis between angioma serpiginosum and parakeratosis variegata.

His conception of parakeratosis variegata was that it was not associated with superficial telangiectases, as was this case. None of them had seen many cases of parakeratosis variegata. They had seen different forms of parapsoriasis but in none of them was there a widespread telangiectasia, such as this patient presented.

Dr. Wise said he was particularly interested in Dr. MacLeod's conception of what parakeratosis variegata really was. He thought under the microscope this case would show none of the changes characteristic of that disease. In the patient under discussion the chief symptom was a widespread superficial vascular dilatation, faint scaling, areas of what appeared to be atrophic skin, and a peculiar erythema, which partly subsided under pressure. The eruption was distinctly inflammatory in character. A microscopic examination would, in his opinion, bear out the diagnosis of angioma serpiginosum.

A CASE FOR DIAGNOSIS. Presented by Dr. Wile.

A man had a condition that had been present for about eight years, having started from an injury when he was struck over the leg by a chair. A small nodule had appeared on the upper third of the left leg, remained quiescent three years, and later ulcerated and healed. Three years ago the ankle became swollen and began to ulcerate. The process spread rapidly at this time. The patient denied syphilis, but the Wassermann reaction was ++++. The lesion showed absolutely no benefit from intensive antisyphilitic treatment, the

patient having been in the hospital more than two and a half months. Biopsy of the lesion showed no evidence of syphilis, but a vascular infectious granuloma. Clinically, it was regarded by Dr. Wile as blastomycosis, but no blastomycetes were demonstrable.

A section from a biopsy of the lesion was shown under the microscope.

URTICARIA PIGMENTOSA. Presented by DR. WILE.

A man, whose condition dated from the age of 2 months, gave a history of diarrhea occurring spring and fall. The family history was negative. Cutaneous sensitization tests were all negative.

DERMATITIS HERPETIFORMIS OR PEMPHIGUS. Presented by DR. WILE.

A woman who had been in the hospital since February, 1923, had an eruption which had begun almost two years before, beginning with pruritus followed by blisters. The patient presented the appearance of typical pemphigus when first seen, numerous lesions being present in the mouth, and the bullae were typical of pemphigus. She had improved markedly on arsenic, and at one time remained entirely well. There was a marked tendency to recurrence and an unusual degree of infiltration left from previous lesions. This existed in more or less gyrate configuration on the legs. Now lesions were more or less sausage-like in shape and were continually recurring. The patient's general health remained fair; she was mentally defective. The question as to differential diagnosis between pemphigus and dermatitis herpetiformis had not yet been determined.

Photographs of lesions on the face were shown.

DISCUSSION

DR. BUTLER said he looked the case over quite carefully and concluded that it corresponded in every way to dermatitis herpetiformis. The amount of itching was extreme. There was some burning, which he had never before found in pemphigus. The medical attendant stated that many of the vesicles rose from an erythematous base. The grouped eruption on the thigh and lower leg with pigmentation suggested dermatitis herpetiformis, and he said that he could see nothing that resembled pemphigus in the case. He thought it a case of dermatitis herpetiformis.

DR. STOKES said that the late Frederick G. Harris on several occasions had presented before various dermatologic societies a case identical with the one shown at this time, and he recited the futility of his many efforts at a therapeutic result. The absolute refractoriness to treatment and the astonishing variety of diagnoses offered in a case of this kind were never better illustrated than in his patient. The Chicago Dermatological Society had committed itself seriatim to erythema multiforme, chronic urticaria, dermatitis herpetiformis, benign pemphigus and premycotic mycosis fungoides, and when Dr. Stokes once more showed the patient to the Society three years after Dr. Harris' death, an eastern dermatologist was found who added prurigo to the list. The intravenous injection of calcium chlorid, by raising the patient's alkali reserve, probably did more good than any form of treatment which the patient had sustained, but, unfortunately, the effect, as on previous occasions, was only temporary.

DR. ENGMAN said he wanted to know whether this was ever connected with vaccination. It was almost similar to the vaccination cases he had seen in considerable number. Those cases well illustrated what Duhring described years ago in the borderline cases that lay between pemphigus, his disease and erythema multiforme, with bullae of pemphigus type. These cases were very stubborn and lasted for many years. They persisted, relapsing and getting better, and it was difficult to tell whether therapy had any effect or not.

DR. POLLITZER asked whether there had been any periods of complete remission at any time.

DR. TOWLE asked whether the patient had received any light therapy.

DR. WILE replied that the disorder had no connection with vaccination and that there was no history of the patient having been vaccinated. There had been no complete freedom from the disease at any time, but she had received no light therapy.

DR. SCHAMBERG said he had seen eruptions representing typical pemphigus which rapidly increased and terminated fatally. He had seen other bullous eruptions following vaccination that were successfully treated with arsenic. On ceasing treatment the eruption recurred, and on repeating the drug it again ceased. He thought there could be no doubt about there being borderline cases, some of which terminate in typical dermatitis herpetiformis and others in typical pemphigus.

DR. WISE asked Dr. Wile whether he was acquainted with the articles in the German literature in which it was stated that the administration of potassium iodid will differentiate pemphigus from dermatitis herpetiformis. He thought the statement was that large doses of potassium iodid would provoke a lighting up of the lesions in the latter, while in pemphigus this will not take place. In his opinion, this sounded rather chimerical, but he thought it might be worth while to try it out.

DR. WILE replied that last year they had had a case of pemphigus of unquestioned diagnosis, and they had tried this out in that patient. A dose of potassium iodid resulted in an enormous accentuation of the lesions, but the patient died, so he thought that the criterion mentioned did not hold.

DR. HIGHMAN said that he tried this treatment in a case of what he considered dermatitis herpetiformis. The reaction was absent, but in Dr. Wile's case, in which it should not have been present, it was. This seemed sufficient commentary on the test.

DR. MACLEOD said he thought it was perhaps the type of case that they had been hedging on the other side. He had been asked by the Dermatological Section about five years ago to open a debate on pemphigoids. The opinion was that these cases were not what they conceived to be pemphigus. They have one type that they call pemphigus, the acute type that is due to septicemia with bullous lesions, in which the organism is in the blood. That is the type that occurs among butchers. They also have another type that he had seen many times in the Children's Hospital, in which bullae appear on perfectly healthy skin, with no symptoms at all. Then there is the type with considerable irritation, and this they believe belongs to the group Duhring so carefully described. This was the way they would sum up the case.

TUBERCULOSIS CUTIS. Presented by DR. WILE.

A youth, aged 16 years, had a disorder which had been present since the age of 8. The condition appeared on the right foot just back of the first and second toes.

It broke down and discharged a large amount of seropurulent material. Similar lesions appeared six months after this on the right thigh. Since then many lesions had appeared as the others healed. The patient had never been entirely free. When first seen the patient also had had a profuse follicular eruption which was thought to be a tuberculid. No pulmonary tuberculosis was present. The patient had improved under roentgen-ray therapy.

SCLERODERMA. Presented by Dr. Jamieson.

A woman, aged 39 years, had no previous history of skin or other disease. In 1916 and 1917, she had received roentgenotherapy for hypertrichosis. In 1918, a small infiltrated ivory-colored patch had appeared under the right lower jaw, about 2 cm. in diameter, but this was not accompanied by any subjective sensation. This area had recently increased in size to 8 by 3 cm., and was well marked in outline and infiltrated, showing two areas of telangiectasia in the middle of the lesion. Recently a small lesion the size of a pea had appeared on the right cheek. On the right arm was a small, slightly reddened pea-sized lesion which had been present for years unchanged.

A diagnosis of carcinoma had been made, in another city, with respect to the lesion on the jaw. The lesion on the arm had not been diagnosed.

DISCUSSION

Dr. Schamberg said he thought the case was morphea, but he made the reservation that one could not be absolutely sure that it was not an epithelioma of the morphea type. There was quite a good deal of infiltration, and a little spot above the main area was infiltrated. In the early stages of morphea infiltration is, of course, frequently found, but he would not like to commit himself definitely to a diagnosis of morphea without an opportunity to watch the case further. He thought that the lesion on the arm was an epithelioma.

Dr. Irvine said he had been informed that the lesion on the arm had been present for six or seven years without change, and therefore he could not accept the diagnosis of epithelioma.

A CASE OF MELANOCARCINOMA. Presented by Dr. Wile.

A man had a condition that had started from a pigmented mole which had been present since birth in the right axillary line. When first seen by Dr. Wile, in October, 1922, it had increased markedly in size, the increase having begun one year before, with one small metastasis at the periphery of the lesion and marked axillary adenitis. The patient had no symptoms or discomfort, and except for the involvement of vision due to metastases in the choroid, he seemed quite well. Metastases were now present in the saphenous canal and back of the knees, as well as scattered all over the body.

MULTIPLE LESIONS OF MORPHEA. Presented by Dr. Wile.

A girl had a condition that had begun one and a half years before with a spot on the chest. The lesions had been appearing rapidly on other parts of the body since that time. The child had complained of pain in the region of the abdomen, had been nervous and irritable, and, the mother stated, had been running a temperature. The child was admitted to the hospital and carefully

observed for evidence of tuberculosis, but none was demonstrable. Under very minute doses of thyroid and solution of potassium arsenite (Fowler's solution) some improvement had been caused.

DISCUSSION

Dr. Highman said he wished to add his word to the inundation of therapeutic suggestions that were coming in. He had a case of this sort with lesions that localized themselves under the knees and elbows. It appeared feasible that the roentgen ray might be used with the idea that it might loosen the skin. He thought it would hasten the atrophy, and it worked in that way but did not cure the morphea.

Dr. Irvine said he had a patient, a little child, with similar lesions that disappeared spontaneously at the end of a year.

Dr. Pollitzer said he thought there could be no question about the diagnosis of scleroderma in the patches across the body. The child had in addition an area made up of a slight lichenoid pigmentation. That particular patch interested him particularly, because the disease described by Czilak as dermatitis lichenoides atrophicans in the Jacobi Atlas six or eight years ago begins in that manner. He had observed a case of that kind which in its development was a reproduction of the Czilak case. He made a histologic examination and found it was not lichen but scleroderma or morphea. The mother of Dr. Wile's patient told him that the patch in the pubic region looked like the patch with which all the lesions started. He thought perhaps Dr. Wile would investigate that matter further. In Dr. Pollitzer's case he saw the same thing occur, and his was a replica of the Czilak case, which was certainly a scleroderma. In his case he had achieved an unusual degree of success in treatment by mild thyroid therapy and massage in the early lesions. He had used a mild tar ointment, and partly to disguise the smell and mainly as a rubifacient, he had added some oil of cloves, his idea being to aid the recovery by local stimulation. His patient recovered.

POROKERATOSIS. Presented by Dr. Wile.

A man had a disorder that dated back as far as he could remember, and similar lesions were said to have occurred in his father and in his daughter. The lesions appeared on the feet first, later on the scrotum and penis. They began as macules and grew rapidly to their present size. This case had been carefully studied and reported by Dr. Wright before the American Medical Association two years before. Many of the lesions had been removed by biopsy for study.

Photographs accompanying the patient were shown.

A CASE FOR DIAGNOSIS. Presented by Dr. Doty. (By invitation).

A woman, aged 30 years, white, who had had several operations which had included the removal of the appendix and uterus, had not menstruated since her last operation, two years ago, and complained of severe headaches at the time the normal menstruation should appear and also of the appearance of numerous circinate, scaly, nonitching lesions on a reddened base. These lesions were from 2 to 10 cm. in diameter; they gradually receded, and finally disappeared completely between periods. To date these lesions had appeared only on the limbs. The Wassermann examination had been negative, and examination for tinea also proved negative.

DISCUSSION

DR. COLE said the patient was so sure about the time for the appearance of the eruption that he thought it was a feigned eruption.

DR. WILLIAMS said he thought the woman probably was mistaken in regard to her menstrual periods. In his opinion the lesions now had all the early appearance of erythema multiforme, and unless the chronology of the menstrual periods could be carefully checked up, he would consider it that disorder.

AN UNUSUAL FORM OF LUPUS VULGARIS. Presented by DR. WILE.

A man, with a lesion that began two years before just inside of the nasal orifice, had a small tumor that had appeared on the right side four or five months later. The other lesions had appeared during the last six months. Biopsy was typical of lupus vulgaris. The Wassermann reaction had been negative. Section from biopsy on the nose was shown under the microscope.

LUPUS VULGARIS. Presented by DR. JAMIESON.

A man, aged 27 years, a Roumanian, a factory worker, presented a roughly rectangular lesion about 8 by 10 inches (20.32 cm. by 25.4 cm.) in size, which had slowly developed since infancy. The first lesion had been a small, deep-seated, reddish yellow nodule, similar to those which composed the border of the lesion. Scaling, crusting and ulceration were present in various parts of the lesion. Biopsy had shown it to be lupus vulgaris.

KERATOSIS BLENORRHAGICA. Presented by DR. WILE.

A man, aged 30 years, who had first entered the hospital in 1920 with a discharge and painful knees and ankles, said his first attack of gonorrhea had occurred in 1913, and a urethral discharge had been present during the next three years. There had been a recurrence of the discharge in 1921, notwithstanding continuous treatment, with increased joint involvement. Since that time the patient had been bedridden. In 1921, the eruption began with excessive scaling of the scalp and formation of crusts on the soles, which fell off and reformed. The nails became involved about that time, and the eruption when the patient was admitted to the dermatologic service was present on the scalp, hand and feet, with isolated patches on the arms and over the genitalia. Since admission and under treatment he had improved somewhat, but the eruption had continued to recur, beginning usually in the form of minute blisters which rapidly became pustular and crusted. Biopsy sections from early and late lesions were shown under the microscope.

DISCUSSION

DR. HAASE said that from the photograph taken previous to the disappearance of some of the eruption one should not hesitate to make a diagnosis of keratosis blenorrhagia. The case resembled one that he reported some time ago, except that his case did not show any vesicles, whereas the photograph of this case showed them quite well. He considered the disorder more of a parakeratosis than a keratosis, as he had stated at that time.

DR. COLE said he would like to see what effect foreign proteins would have on the case.

DR. WILE said he was not sure that the patient had not received this treatment. He had a chronic gonorrheal discharge and had been in such a precarious condition for some time that nothing could be attempted. He was sure that the patient had received foreign protein in the form of gonorrheal vaccine. He had been given good care, and simple wet dressings seemed to remove the crusts and keep him fairly free.

DR. PARDO-CASTELLO said their urologist had reported to him excellent results with sulphur-arsphenamin in the treatment of blenorrhagic joint disease. He did not know how it worked. Dr. Pardo-Castello said he had never seen a case of keratosis blenorrhagica before, but he was sure that the sulphur-arsphenamin had helped in gonorrheal arthritis, and he thought it might be well to try it, since therapeutic measures were quite limited in such disorders.

DR. STOKES endorsed Dr. Pardo-Castello's suggestion, and said that there were many reports in the German literature on silver arsphenamin given intravenously in such cases with good results.

DR. WILE said that the roentgenograms showed such extensive overgrowth and changes in the capsule of the joints that he doubted that much could be done for the joints already involved.

GRANULOMA FUNGOIDES. Presented by DR. WILE.

A man was troubled with itching that had been present for four years. This began as an infiltration, and tumors had appeared only since September last, about eight months before.

UNUSUAL PIGMENTATION OF THE FACE. Presented by DR. WILE.

A man had pigmentation just above the zygoma that had begun one and a half years before and that had gradually increased in size. Slight pruritus was present. The patient also suffered from atrophy of the small muscles of the hand. There was no pigmentation of the mucous membranes or of the genitalia. A section from a biopsy of the lesion was shown under the microscope.

DISCUSSION

DR. PUSEY said that his reaction to this case was exactly the same as Dr. Wile's. He had forgotten that Dr. Wile had seen the case of peculiar pigmentation on the face that Dr. Ormsby and Dr. Pusey had had. That patient died a year or two later of malignant neoplasm. Dr. Pusey said he now had under observation a patient with the same kind of pigmentation, not so extensive as was present in this case, but with an abundance of pigment in the upper part of the corium. That patient was still entirely well. Dr. Pusey said that in his opinion this type of case is a reaction seen in malignant growths, and he believed that the condition is analogous to acanthosis nigricans.

DR. STOKES asked whether there was any enlargement of the liver.

DR. WILE replied that there was not.

DR. STOKES said the reason he asked was that internists of his acquaintance have been investigating the pigmentations of the skin that occur in certain involvements of the liver, and he wondered whether this case had been studied from that standpoint. He thought the pigmentation often appeared on the face earlier than anywhere else.

DR. SCHAMBERG asked whether an erythrocyte count had been made.

Dr. Wile said he was sure that such a count had been made, as the patient had been in the hospital for several weeks, but the history was not at hand.

Dr. Schamberg said he thought the case was a most remarkable one. It was evident to him that the basic condition was vascular, for if one traced the eruption back over the scalp one could see retiform vascular dilatations. He thought that the case might conceivably come under the polycythemia group with blood vessel changes.

Dr. Butler said the color of the lesions was markedly similar to that of the phenolphthalein eruptions that were being seen rather frequently. Since Dr. Wise and others had brought this to his attention he had seen several cases, one of which showed lesions comparable to those in this case, the lesions being scattered over the face and in one case in the axilla. Since so many proprietary preparations contain phenolphthalein, he thought that patients with such eruptions should be questioned carefully.

Dr. John E. Lane said he was struck with the superficial resemblance to ochronosis of which Dr. Schamberg spoke. It was evidently not that disease, and he had no suggestions as to the diagnosis.

Dr. Wile said he realized that there was nothing to say, but the man with the multiple melanotic tumors was a University professor, and he was anxious to receive any therapeutic suggestions that might be used in his case.

TUBERCULOSIS VERRUCOSA CUTIS RESEMBLING BLASTOMYCOSIS. Presented by Dr. VanRhee. (By invitation).

A man, aged 20 years, a negro laborer, presented a verrucous lesion about 3 inches (7.62 cm.) in diameter on the dorsal surface of the left hand. The patch was elevated, infiltrated and studded with wartlike papillary purplish red nodules around the periphery. The center showed smooth scars. The first lesion had appeared in 1914. Examination of the chest had proved negative for tuberculosis. Biopsy showed that the condition was tuberculosis cutis.

MACULO-ANESTHETIC LEPROSY. Presented by Dr. Wile.

A man, aged 22 years, a native of the Island of Malta, had a history of fever ten years before. One year ago he began to have pain. The eruption on the body appeared about four months previous to the time of presentation. There was considerable analgesia of the affected areas and many sensory changes throughout the body. The ulnar and popliteal nerves showed marked enlargement. The patient was improving on chaulmoogra oil.

DISCUSSION

Dr. Pusey said he considered it a typical case of Hansen's disease, and he thought this diagnosis could be made unanimous.

Dr. Morrow said this was the type of case that should clear up under fatty acids of chaulmoogra oil. He agreed with Dr. Pusey that there was no doubt of its being a typical case of the maculo-anesthetic type.

Dr. Wile said that Dr. Warthin had made the statement that if any student saw a section from this case and did not diagnose tuberculosis, he would condition him. Dr. Wile told him that he thought his knowledge of Hansen's disease was not as extensive as it should be, but was glad of the unanimous support of the Association.

MACULAR ATROPHY, POSTSYPHILITIC. Presented by DR. WILE.

The patient, a man who had first been seen in 1921, at which time he had given a history of chancre a year and a half previously, had received six injections of arsphenamin and thirty inunctions of mercury. When first seen, the lesions were present as they were at the time of presentation, and the patient said that they had developed on the site of an extensive eruption which followed the chancre. The Wassermann reaction when first seen was negative. The patient also presented a large mass under the chin the size of a hen's egg, moderately firm and freely movable. Following mild arsphenamin treatment, he had developed a temperature suggestive of tuberculosis. This was substantiated by roentgen-ray findings of his lungs. Removal of a portion of a gland on the neck had revealed a picture of chronic tuberculous adenitis.

DISCUSSION

DR. POLLITZER had a definite impression that along with the atrophic spots there were some that instead of being atrophic were infiltrated. He thought some of them were definitely raised.

SCHAMBERG'S PROGRESSIVE PIGMENTARY DERMATOSIS. Presented by DR. STEVENS. (By invitation).

A man, aged 42 years, white, an American, in wose family or past history there was nothing of any importance, in the summer of 1922 had had a series of furuncles on the head, followed later by a pigmentary eruption. The lesions were diffused on the legs, thighs, trunk and arms, beginning below the knees as a finely punctate yellowish red eruption, resembling minute hemorrhages. There were no subjective sensations. Urinalysis was normal and the blood sugar practically normal.

DISCUSSION

DR. SCHAMBERG said he thought this case corresponded in its essential features with the case he described as a peculiar progressive pigmentary disease of the skin. He was afraid some physicians had tried to extend the conception of this affection beyond its original limits and had included pigmentation due to venous stasis of the legs. The primary feature of the disease described by him is the presence of small cayenne pepper-like puncta representing the little capillary loops, associated with pigmentation and slow upward extension of the eruption. In the case under discussion it had extended up to the lumbar region. In the original case the condition was present on the arms. The eruption is a mild inflammatory condition, and Dr. Schamberg was afraid it had been given too much attention in the literature.

A CASE FOR DIAGNOSIS. Presented by DR. MURRAY. (By invitation).

A man, an American, an accountant, presented moderately infiltrated scaly plaques and confluent brownish red areas on the right hip and both lower legs, left axillae and forearms and back of neck. The condition was of ten years' duration and had been stationary for three years. The patient had had renal colic for ten years and most of the time was taking daily small doses of morphin. He had been operated on for renal calculus ten years previously, and the eruption had followed in a few weeks. Other general and cutaneous history was negative. Various applications, mostly stimulating, such as salicylic acid, sulphur oleum rusci and the roentgen ray, had been consistently used without effect.

DISCUSSION

DR. WALLHAUSER said he inclined to the diagnosis of parapsoriasis on account of the long duration of the lesions, the absence of infiltration and the presence of shiny smooth rounded lichenoid papules which were observed in all types of this eruption. In this case they were present over the buttocks, sacral region and outlying the large plaque on the right thigh.

DR. JOHN E. LANE said he had no diagnosis to offer but disagreed with the diagnosis of parapsoriasis. In his opinion, the thickening of the skin with wrinkling seen in the lesion on the back of the neck is not found in parapsoriasis. The small papules described by Dr. Wallhauser as seen in this patient did not appear to him to be characteristic of parapsoriasis.

DR. HIGHMAN said he thought it was almost impossible after a few moments' inspection to get any real grasp of the manifestations in this particular case. In the first place, he entirely agreed with Dr. Lane concerning Dr. Wallhauser's point of view, but he did not share his agitation about it. What was present in the case were various plaques and certain festooned lesions, dark colored, and visible superficial atrophy, puckering and, on the calf, a spot about the size of a thimble that was divided up into smaller divisions, each of the areas very much puckered. There was a good deal of wrinkling and a certain degree of scaling, with a good deal of variation in the shape and size of the lesions and in the color. Dr. Highman said he thought it was not safe to venture even a Latin or Greek name for the disease.

DR. WILLIAMS said that after the description of Dr. Highman he thought no one could venture a diagnosis, but he believed that many of the features present in this case suggested mycosis fungoides. The large size of the lesions and the infiltration present suggested that disease, and he thought it would not be surprising if the patient developed typical lesions within the next eight or ten years.

A CASE FOR DIAGNOSIS. Presented by DR. JAMIESON.

A woman, aged 51 years, an American, whose family and past dermatologic history was irrelevent, had lesions that began about nine years before as reddened deep-seated nodules on the left breast, which were later removed, although no diagnosis of malignancy was made. Similar lesions developed slowly on the right breast, both arms and back, both evolution and involution being extremely slow. Most of these necrosed and formed deep, indolent abscesses which healed slowly, leaving a sinus that discharged for weeks. Pain was present during the progress of the lesions. Laboratory examinations had been negative. The only abnormal finding was a blood pressure of 180. Pathologic findings showed an infectious, granulomatous process, an occasional cell resembling a giant cell and one or two bodies suggestive of blastomycosis.

DISCUSSION

DR. STOKES said that this case had been seen at the Mayo Clinic, but no satisfactory diagnosis had been made. The case suggested one referred to him by Dr. Foerster, with multiple deep abscesses of pyogenic origin probably developing in a person of low resistance; but he did not see any reason for considering mycosis fungoides or tuberculosis in either case.

DR. MACLEOD said he thought the case looked very much like sporotrichosis. They had had several cases of that disorder and had been much baffled about the diagnosis.

DR. JAMIESON said that the patient had improved somewhat under roentgenotherapy which had been used during the past few weeks. More or less experimentally, he had given some potassium iodid, and she had shown improvement. Before the patient came to him and before she went to the Mayo Clinic cultures had been made, guinea-pigs inoculated and everything else done that could be done to clear up the diagnosis, but with negative findings.

DR. SENEAR said that when he saw the patient he made the statement that he had never seen one case of nodular tuberculosis of the hypoderm described by Dr. Wende. That was merely a comment, but we would like to hear Dr. Wende's opinion as to whether there was any resemblance.

DR. WENDE said the case had no resemblance to nodular tuberculosis of the hypoderm.

DR. GUY called attention to a method for isolating the sporothrix from suspected cases that had often proved successful after repeated failures by ordinary means. The plan was to collect the material and dry it for two or three days before planting it on mediums. In this way they had been able to isolate the organism in two cases in which they had failed before. The rationale of the procedure was based on the effect of drying on the secondary invaders.

DR. POLLITZER suggested that in doubtful cases of sporotrichosis it was desirable to test the agglutination. This is a specific reaction, and he wondered whether the test had been made in this case.

DR. JAMIESON said he thought this had not been done.

A CASE FOR DIAGNOSIS. Presented by DR. WILE.

A man, aged 43 years, had a disease that was of thirty-seven years' duration, having begun at the age of 6 as a small warty lesion on the left buttock. The growth had gradually increased in size during all these years. The case had been diagnosed at St. Paul as an extensive lupus and had been operated on six times, recurring each time. The pathologic examination of the lesion showed an infective granuloma without any tubercles suggestive of blastomycosis, although no blastomycetes had been demonstrable. The Wassermann reaction had been negative. Section from biopsy was shown under the microscope.

DISCUSSION

DR. RAVOGLI said he thought from the location of the tumor, its consistence and its recurrence, that it was sarcoma.

DR. MACLEOD suggested a possible granuloma pudendi.

DR. WILE said that the patient had improved considerably while he was under their care, but the lesion had soon broken down again.

A CASE FOR DIAGNOSIS. Presented by DR. WILE.

A man, aged 40, a core-maker, born in Volhynia, had a condition that had been diagnosed nine years ago, while in Russia, as an eczematoid pruritic condition of the lower legs. Four years previously small nodules had first appeared, which were progressive and had a tendency to spontaneous disappearance, producing scars. Eleven months prior to the time of presentation a tumescence had appeared in the left femoral region. This had been removed surgically, with recurrence in two months. There had been a loss of 50 pounds (22.6 kg.) in weight during the past two years. There was a swelling of the abdomen of two months' duration.

DISCUSSION

DR. POLLITZER said he thought that the tumor was a malignant growth and would not venture a more definite diagnosis without further examination.

LEUKEMIA CUTIS. Presented by DR. WILE.

A man had been in the hospital for the past three years. When first seen the picture of his condition had been that of an exfoliative dermatitis, the blood count being normal. During the first few months marked enlargement of the superficial lymph glands occurred, associated with a lymphocytosis of from 50,000 to 75,000, small lymphocytes predominating. Biopsy of the skin at this time had shown a typical lymphogenous infiltrate throughout the corium. Since that time the liver and spleen had been enlarged; the blood picture had been consistently that of a lymphatic leukemia of a chronic type. True nodules or leukemids had appeared from time to time on various parts of the body. The verrucous and condylomatous lesions around the ankles and wrists had been present for about two years. The patient's general health remained fair. Biopsy sections from skin lesions were shown under the microscope.

DISCUSSION

DR. SCHAMBERG said he had a case in the Philadelphia General Hospital which on admission was diagnosed as a leukemic erythroderma, although it had formerly been diagnosed as mycosis fungoides. The patient had a pronounced lymphocytosis and leukocytosis. He had never had any cutaneous growths except, perhaps, one or two pea-sized elevations. One of these was excised and examined, and Dr. Weidman found no distinctive evidence of leukemia. Roentgenotherapy over the spleen and bones had reduced the leukocytes to normal. The spleen decreased in size, and the patient was then free from itching.

DR. WILE said he thought there could be no question that the man had a lymphatic leukemia, as he had an enlarged spleen and liver as well as the lymphatic enlargement.

DR. PUSEY said he thought it was a poor picture of leukemia and that the exfoliative dermatitis was a part of the leukemia.

DR. POLLITZER said he thought it probable that the man had had an asymptomatic or unrecognized leukemia which had resulted in an exfoliative dermatitis, and that later the other symptoms of leukemia appeared.

A CASE FOR DIAGNOSIS. Presented by DR. WILE.

The patient was a male child, whose disorder began at the age of 2 months with a small pigmented lesion on the shoulder, and a larger one on the foot appeared at the age of 8 months. The patient had a history of "hives" as often as twice a week since the age of 3 months. Biopsy sections from the lesion on the foot were shown under the microscope.

DISCUSSION

DR. PUSEY said he thought the case was interesting, and unless histologic evidence proved otherwise he would accept the case as a lymphatic nevus or a lymphangioma.

LYMPHANGIOMA-ENDOTHELIOMA. Presented by DR. JAMIESON.

A man, aged 32 years, an American, had nothing in his past or family history bearing on the present lesion. Eight months previously a small cystic growth had developed on the scalp over the right temple. It was diagnosed a cyst and incised. Four months later a section had been removed, after which the lesion increased rapidly in size. The lesion presented was a hard, cutaneous and subcutaneous mass, lobulated, reddened and elevated about 1 cm. above the level of the surrounding skin. The surface was level and had several exuding points. The pathologic findings had been those of lymphangioma endothelioma.

XANTHOMA TUBEROSUM MULTIPLEX. Presented by DR. WILE.

A man, whose eruption began in 1922, just a year previous, with the lesion unassociated by any symptoms, had no glycosuria, nor had he had any at any time. Examination showed that the blood sugar was normal and that there was no increase in the blood cholesterol.

XANTHOMA TUBEROSUM MULTIPLEX. Presented by DR. WILE.

A man, whose trouble began in 1908 with the appearance of xanthomatous lesions on the elbows and knees, shortly after suffered with an acute attack of appendicitis. This was followed by the disappearance of the xanthomatous lesions until 1920, and the condition had been present continuously, more or less, since that time. Shortly after the recurrence of the lesions the patient had suffered an attack of epigastric pain and headache, with eight or ten attacks of this character from 1920 to 1922. The original weight of the patient had been 180 pounds (81.6 kg.), and his weight at the time of presentation was 130 pounds (58.9 kg.). The patient said that the xanthomatous lesions were always worse before each attack and improved following the attack. An exploratory operation had been performed in April, 1922. Extensive adhesions binding down the colon and hepatic flexure of the colon and an apparently healed gastric ulcer were noted. There had been no attacks of abdominal pain since the operation. The blood sugar was normal. No glycosuria had been present at any time. The patient said that eliminating starches and sugars from his diet would cause the disappearance of the lesions. The lesions disappearred following operation.

XANTHOMA TUBEROSUM MULTIPLEX. Presented by DR. JAMIESON.

A man, aged 37 years, white, an American, somewhat overweight, said that five years ago there had been on the legs and arms a symmetrical nonpruritic eruption of reddish yellow papules, which had disappeared after a few months. One year later a second crop appeared which lasted longer. Ten months previously the eruption had recurred, involving the back, arms and legs, especially the extensor surfaces. Individual lesions varied in size from that of a pinhead to that of a split pea, and they were not grouped in any particular manner, although some were arranged in small rings, some were small papules, while others approached the size of small nodules, and on one finger there had been a distinctly nodular lesion. The color had been a pronounced red, the surface of each lesion being umbilicated and capped by a yellowish, deep-seated granule. The Wassermann reaction and urinalysis had been normal repeatedly, basal metabolism 15 per cent. above normal, and the blood cholesterol markedly

increased. Improvement had followed the adoption of a cholesterol-free diet. In April, 1922, there had been a 25 per cent. eosinophilia, the blood cholesterol then being 0.228 mg. per cent. In February, 1923, the eosinophilia was 1 per cent. and the blood cholesterol 0.396 mg. per cent.

DISCUSSION

DR. WILE said that the case presented by Dr. Jamieson was a typical xanthoma tuberosum multiplex.

DR. ENGMAN said he had just had an opportunity of seeing a case of xanthoma diabeticorum treated with insulin. The effect was marvelous. The day following treatment the tumors had shrunk and shriveled coincident with the general improvement of the patient.

DR. COLE said that they had recently had a case in which lesions had been present for three months. He had sent the patient to a man who had been working with diabetes and its treatment with insulin, and he put the patient on a fat-free diet, whereupon the tumors disappeared.

ADENOMA SEBACEUM. Presented by DR. VANRHEE (By invitation).

A boy, aged 12 years, an American, presented pinhead to pea-sized papules, varying in color from yellowish white to brownish red, on both cheeks, forehead, nose and upper lip. These surfaces showed many minute capillaries. The back and chest showed several small patches slightly pigmented, follicular in type. He had small macular lesions devoid of pigment on both arms. The lesions on the face appeared at the age of 4. The patient had been treated for epilepsy, and his mentality was below normal. Biopsy of the lesions on the back had been made by Dr. Wile. The pathologic picture resembled that of pseudoxanthoma elasticum and had no relation to adenoma sebaceum.

DISCUSSION

DR. WILE said that the lesion on the arm was not in any way connected with the adenoma sebaceum.

DR. HIGHMAN said he thought that the pigmentary spots looked like Recklinghausen's disease and that the lesions on the back were like the tumors in this disease. Many of them had a spot that might be due to myelogenous degeneration. He thought they were all manifestations of Recklinghausen's disease, which so frequently is associated with these curious atrophies.

DR. HAASE said he understood Dr. Wile to say that there was an increase in the elastic tissue in the lesions on the back.

A CASE FOR DIAGNOSIS. Presented by DR. WILE.

A man had a disorder which was first noticed six years ago when a lesion appeared in the right groin which was transitory. One year later in France a similar lesion appeared in the same location. There was progressive extension with a tendency to heal. The blood Wassermann reaction was ++++. Previous to entrance to the hospital he had received numerous injections of arsphenamin and tartar emetic (?), with no improvement. There had been striking improvement under roentgenotherapy and large doses of potassium iodid. The syphilis had been treated in the meantime with arsphenamin. Sections from a biopsy of the lesion were shown under the microscope.

DISCUSSION

DR. PARDO-CASTELLO asked whether the granuloma pudenda had been investigated for the etiologic germ. The calimatobacterium granulomatis, discovered in Brazil, is constantly found in these cases.

DR. JAMIESON said the patient was treated for his ++++ Wassermann reaction and also received tartar emetic intravenously, with immediate improvement. As soon as he began to get a little better he would stay away until the lesions reached the original size. He thought the patient had given Dr. Wile the wrong impression when he said he had received no benefit from the treatment.

A CASE FOR DIAGNOSIS. Presented by DR. WILE.

A woman had an eruption that had been present for five years and eight months previous to the time when the patient was first seen. The lesions were nodular and extremely painful, appearing on the elbows and knees and around the joints, and were associated with marked arthritic pains. The lesions had appeared from time to time during the last two years. Many of them were purpuric. There was no history of syphilis, but the Wassermann reaction had been +. The case was regarded by Dr. Wile as an unusual form of purpura, possibly Majocchi's disease.

DISCUSSION

DR. HIGHMAN said that he saw the patient in New York. She had had the condition which was now present at various intervals. He thought the diagnosis made at the Mt. Sinai Hospital by Dr. Goldenberg was that of erythema multiforme, not of the Hebra type but the type that shows the acute phases, and also nodular lesions. He did not think the case could be classified any better. He had been informed that the patient had taken all the drugs imaginable, so that it might be a drug eruption, but this would not account for all the arthralgias which were present. He thought the case belonged to the group of multiform erythemas.

HEMANGIOMA. Presented by DR. JAMIESON.

A girl, aged 10 years, an American, whose family and past history was negative, five years previously had a few deep-seated bluish red nodules that developed subcutaneously on the soles. They were about the size of a pea, painless except on pressure, and many of them gradually became sclerosed, approached the surface and were slowly extruded. A few scattered lesions of the same type had since appeared on other parts of the body, the chest, arm and shoulder. Biopsy revealed angioma cavernosum with a thickened fibrous capsule.

EXTENSIVE MUTILATING SYPHILID INVOLVING THE BONES OF THE HANDS AND FEET. Presented by DR. WILE.

The patient was a woman who said that her husband had died of syphilis. There was a history of three miscarriages. The Wassermann reaction was, at the time of presentation, positive. Destructive lesions began fifteen years before with a sinus in the left foot. This process continued to develop, and other lesions appeared over the rest of the body. The hand became diseased five years ago, gradually causing a loss of the fingers and atrophy. All the healing took place following five injections of arsphenamin given last October. The roentgen-ray findings of the diseased hand and foot showed changes characteristic of extensive bone and joint syphilis.

A CASE FOR DIAGNOSIS. Presented by Dr. Doty (By invitation).

A man, aged 35 years, colored, a painter, had a disorder that began as small papules in 1916, first appearing on the arms and gradually spreading over the chest, abdomen, legs and dorsal surfaces of the feet. The lesions were maculopapular, diffuse and appeared in crops. The skin between the lesions was normal. The patient suffered with intense itching which seemed to be worse at night.

DISCUSSION

Dr. Ravogli said he thought it was a papulonecrotic tuberculid, from the groups of papules showing necrosis in their apex and from the general appearance of the patient.

Dr. Lieberthal said that besides the papules there were numerous crusts. The intensive pruritis together with these, he thought, would suggest a diagnosis of dermatitis herpetiformis.

Dr. Senear said that there was a case of this kind in Chicago several years ago; later one was exhibited in St. Louis, and Dr. Pusey and he had recently seen one in the office. In all of them the picture was much the same. When the lesion was traced to the starting point, it was found to be a follicular papule causing intense pruritis. They develop a good deal of lichenification from scratching, so that some of the lesions resemble lichen planus. He thought the lesion that resembled a tuberculid in this case was due to scratching. At the St. Louis meeting Dr. Michael said he had seen several cases in colored people, and his conception of the case was the same that Dr. Pusey and he had had at that time.

Book Reviews

DISEASES OF THE SKIN. By RICHARD L. SUTTON, M.D., Professor of Diseases of the Skin, University of Kansas School of Medicine. New 2nd revised and enlarged edition. Price, silk cloth, net, $10.00. Pp. 1214, with 1069 illustrations, mostly original, and 11 full-page color plates. St. Louis: C. V. Mosby Company.

Sutton is keeping up his pace, and presents us with the fifth edition of his work on diseases of the skin. The increase in size in each succeeding edition is testimony of the thorough way in which he revises the work. It has become one of the monumental books on skin diseases, with 1,200 pages and nearly 1,100 illustrations in this edition. It is a fine book, and it is a credit to one of the most alert and indefatigable workers in dermatology. We congratulate him on its success. The work has been extensively reviewed previously in THE ARCHIVES OF DERMATOLOGY AND SYPHILOLOGY, and there is nothing to say of this edition now except to call attention to it.

DIE LUMBALPUNKTION (LUMBAR PUNCTURE). MARTIN PAPPENHEIM, Lecturer at the University and Director of Neurological Service, City Hospital for Incurables, Vienna. One volume. Pp. 184. Vienna: Rikola Verlag, 1922.

The author presents an excellent and comprehensive monograph in which the material is drawn from personal experience and a liberal reference to German literature. It is intended to simplify and to teach in minute detail the diagnostic phases of this subject to the student and to correct errors in technic and observation commonly committed by specialists as well as by general practitioners. While chiefly of value to the laboratory worker, the text is replete with observations and deductions of importance to the clinician. Twelve of the twenty-one chapters are of special interest to the syphilographer. Nine pages deal with anatomic and physiologic considerations; seventeen with the technic, dangers and sequelae of puncture; nineteen with the theory, technic and clinical data of the colloidal gold reaction; thirteen with the Wassermann reaction; nineteen with the diagnostic and prognostic significance and eight with the therapeutics of lumbar puncture. Considerable attention is devoted to the various special tests and reactions and to quantitative and qualitative cell studies. The outstanding feature of this volume is the attention to details in the delineation of technic, which makes it invaluable as a reference book on all phases of the subject of lumbar puncture.

Index to Current Literature

DERMATOLOGY

Acne, Roentgen Ray Versus Vaccines in Treatment of. H. Fox, J. A. M. A. **81**:1417 (Oct. 27) 1923.

Actinomycosis, Human, Case of. F. W. Rinkenberger, California State J. Med. **21**:249 (June) 1923.

Actinomycosis. Report of Cases. H. A. Bruce, Ann. Surg. **78**:294 (Aug.) 1923.

Actinomycosis, Two Cases of, Subsequent to Extraction of Teeth. W. T. Warwick, Lancet **2**:497 (Sept. 8) 1923.

Adenoma, Sebaceous, of Face with Epilepsy and Intracranial Hypertension. H. Roger and C. Mattei, Bull. et. mém. Soc. méd. d. hôp. de Paris **47**:1135 (July 20) 1923.

Basal Metabolism in Dermatology. E. Pulay, Deutsch. med. Wchnschr. **49**:975 (July 27) 1923.

Bullous Diseases of Skin. G. Stumpke, Med. Klin. **19**:1044 (July 29) 1923.

Burns, Electric, of Skin. C. W. G. Mieremet, Klin. Wchnschr. **2**:1362 (July 16) 1923.

Burns, Hydrogen Dioxid in Treatment of. A. de Groot, Nederlansch. Tijdschr. v. Geneesk. **2**:354 (July 28) 1923.

Camphorated Oil Tumors. O. Cignozzi, Riforma med. **39**:675 (July 16) 1923.

Cancer Grafts Inoculated into Roentgenized Area, Histologic Study of Fate of. XIII. Studies on Roentgen-Ray Effects. W. Nakahara, J. Exper. Med. **38**:309 (Sept.) 1923.

Cancer of Tongue, Radium Emanation Ampoules in Treatment of. F. E. Simpson, Illinois M. J. **44**:139 (Aug.) 1923.

Cancer. Precancerous Skin Lesions. M. Scholtz, California State J. Med. **21**:334 (Aug.) 1923.

Cancer, Roentgen-Ray. J. H. Dible and J. M. W. Morrison, Arch. Radiol. & Electrotherap. **28**:65 (Aug.) 1923.

Chickenpox, Unusual Case of. H. C. Pattin, Lancet **2**:510 (Sept. 8) 1923.

Complement Fixation Reaction as Applied to Leprosy. P. A. Lewis and J. D. Aronson, J. Exper. Med. **38**:219 (Aug.) 1923.

Cutaneous Tuberculosis, Treatment of. J. H. Sequeira, Brit. M. J. **2**:503 (Sept. 22) 1923.

Dermal Leishmaniasis, Case of. I. Bose, Calcutta M. J. **18**:308 (July) 1923.

Dermatitis Artefacta Simulating Roentgen-Ray Dermatitis. G. M. Mackee and G. C. Andrews, Am. J. Roentgenol. **10**:617 (Aug.) 1923.

Dermatologic Problems. O. Grütz, Deutsch. med. Wchnschr. **49**:955 (July 20) 1923.

Dermatology, Basal Metabolism in. E. Pulay, Deutsch. med. Wchnschr. **49**:975 (July 27) 1923.

Dermatology, Indications for Roentgen-Rays in. R. Lenk, Klin. Wchnschr. **2**:1271 (July 2) 1923.

Dermatology, Serology in. A. Memmesheimer, München. med. Wchnschr. **70**: 872 (July 6) 1923.

Eczema, Treatment of, from Anaphylaxis. H. Grenet and R. Clément, Bull. et mém. Soc. méd. d. hôp. de Paris **47**:814 (June 1) 1923.

Electric Burns of Skin. C. W. G. Mieremet, Klin. Wchnschr. **2**:1362 (July 16) 1923.

Epidemic Encephalitis, Herpes Febrilis and Influenza, Relations Between. G. Holler, Wien. klin. Wchnschr. **36**:484 (July 5) 1923.

Erythema Nodosum, Antistreptococcus Serum in. A. H. Carter, Brit. M. J. **2**:414 (Sept. 8) 1923.

Erythema Nodosum in Children. J. Comby, Arch. de méd. d. enf. **26**:329 (June) 1923.
Erythema Nodosum, Pathogenesis of. E. Ledoux, Rev. de méd. **40**:321 (June) 1923.

Granuloma Inguinale. C. F. Ross, Virginia M. Monthly **50**:401 (Sept.) 1923.

Hemorrhages, Extensive Skin, in a Child. W. Neuhaus, Deutsch. med. Wchnschr. **49**:986 (July 27) 1923.
Herpes Febrilis, Epidemic Encephalitis and Influenza, Relation Between. G. Holler, Wien. klin. Wchnschr. **36**:484 (July 5) 1923.
Hydrogen Dioxid in Treatment of Burns. A. de Groot, Nederlandsch. Tijdschr. v. Geneesk. **2**:354 (July 28) 1923.
Hyperkeratosis, Congenital. J. Comby, Arch. de méd. d. enf. **26**:370 (June) 1923.

Influenza, Herpes Febrilis and Epidemic Encephalitis, Relations Between. G. Holler, Wien. klin. Wchnschr. **36**:484 (July 5) 1923.

Keratoderma, Gonococcus. A. A. de Matta, Brazil-med. **2**:21 (July 14) 1923.

Leishmaniasis, Dermal, Case of. I. Bose, Calcutta M. J. **18**:308 (July) 1923.
Leprosy and Tuberculosis, Analogy Between. Herxheimer, Klin. Wchnschr. **2**:1053 (June 4) 1923.
Leprosy, Complement Fixation Reactions as Applied to. P. A. Lewis and J. D. Aronson, J. Exper. Med. **38**:219 (Aug.) 1923.
Leprosy, Modern Treatment of. O. C. Netto, Brazil-med. **1**:315 (June 9) 1923.
Lungs, Skin and Nails, Fatal Case of Thrush Involving. J. T. Christison, Am. J. Dis. Child. **26**:250 (Sept.) 1923.
Lupus and Other Forms of Tuberculosis, Artificial Light Treatment in. A. Reyn, Brit. M. J. **2**:499 (Sept. 22) 1923.

Nails, Skin and Lungs, Fatal Case of Thrush Involving. J. T. Christison, Am. J. Dis. Child. **26**:250 (Sept.) 1923.

Osteomyelitis Variolosa. W. L. Brown and C. P. Brown, J. A. M. A. **81**:1414 (Oct. 27) 1923.

Pigmentations, Experimental, of Tarred Mice. B. Lipschutz, Wien. klin. Wchnschr. **36**:520 (July 19) 1923.
Precancerous Skin Lesions. M. Scholtz, California State J. Med. **21**:334 (Aug.) 1923.
Pseudoxanthoma, Elastic. G. Caussade and J. Surmont, Bull. et mém. Soc. méd. d. hôp. de Paris **47**:1163 (July 20) 1923.
Psoriasis, Present Status of Treatment of. K. Herxheimer, Klin. Wchnschr. **2**:1369 (July 16) 1923.
Psoriasis, Treatment of. M. R. Gonin, Schweiz. med. Wchnschr. **53**: 569 (June 14) 1923.

Radiotherapy of Fibroids. P. Delbett, Néoplasmes **2**:70 (March and April) 1923.
Roentgen Burn, Granulation Tumor on. G. Brandt, Deutsch. Ztschr. f. Chir. **180**:405 (July) 1923.
Roentgen-Ray Cancer. J. H. Dible and J. M. W. Morrison, Arch. Radiol. & Electrotherap. **28**:65 (Aug.) 1923.
Roentgen-Ray Effects, Studies on. XIII. Histologic Study of Fate of Cancer Grafts Inoculated into Roentgenized Area. W. Nakahara, J. Exper. Med. **38**:309 (Sept.) 1923.
Roentgen-Rays, Indications for, in Dermatology. R. Lenk, Klin. Wchnschr. **2**:1271 (July 2) 1923.
Roentgen Rays, Is It Necessary to Assume Functional and Growth Stimulation, In Explanation of Action of? F. Pordes, Arch. Radiol. & Electrotherap. **28**:89 (Aug.) 1923.

Roentgen-Ray Therapy Twenty Years Ago. W. A. Pusey, J. A. M. A. **81**:1257 (Oct. 13) 1923.
Roentgen Ray Versus Vaccines in the Treatment of Acne. H. Fox, J. A. M. A. **81**:1417 (Oct. 27) 1923.
Roentgen Rays, What Causes the Healing Action of? G. Holzknecht, Arch. Radiol. & Electrotherap. **28**:85 (Aug.) 1923.
Rubella, Blood in. J. Kaneko, J. Oriental Med. **1**:112 (Aug.) 1923.
Rubella, Study of 85 Cases of, Among Children in Manchuria (Dairen). T. Suzuki, J. Oriental Med. **1**:85 (Aug.) 1923.
Rubella, Urine in. Dr. Nagahara, J. Oriental Med. **1**:115 (Aug.) 1923.

Scarlet Fever, Home Disinfection and Control of. K. Simpson, Lancet **2**:455 (Sept. 1) 1923.
Scarlet Fever, Serotherapy in. J. Paraf, Bull. méd. **37**:945 (Aug. 11) 1923.
Scarlet Fever, Treatment of, by Eucalyptus Oil and Phenolated Oil Versus Isolation. G. Gushue-Taylor, Lancet **2**:505 (Sept. 8) 1923.
Scleroderma in Child. H. C. Dryry, Irish J. M. Sc. **19**:193 (Aug.) 1923.
Serology in Dermatology. A. Memmesheimer, München. med. Wchnschr. **70**: 872 (July 6) 1923.
Skin and Immunity (Conc'n). R. Volk, Wien. klin. Wchnschr. **36**:459 (June 28) 1923.
Skin and Immunity, Relationship Between. H. Martenstein and B. Schapiro, Deutsch. med. Wchnschr. **49**:947 (July 20) 1923.
Skin, Bullous Diseases of. G. Stümpke, Med. Klin. **19**:1044 (July 29) 1923.
Skin. Case of Dermal Leishmaniasis. I. Bose, Calcutta M. J. **18**:308 (July) 1923.
Skin Diseases in Children, P. Jourdanet, Arch. de méd. d enf. **26**:555 (Sept.) 1923.
Skin, Electric Burns of. C. W. G. Mieremet, Klin. Wchnschr. **2**:1362 (July 16) 1923.
Skin Hemorrhages, Extensive, in a Child. W. Neuhaus, Deutsch. med. Wchnschr. **49**:986 (July 27) 1923.
Skin, Lungs and Nails, Fatal Cases of Thrush Involving. J. T. Christison, Am. J. Dis. Child. **26**:250 (Sept.) 1923.
Skin, Streptococcal Affections of. U. N. Mandal, Indian M. Gaz. **58**:375 (Aug.) 1923.
Skin. Treatment of Cutaneous Tuberculosis. J. H. Sequeira, Brit. M. J. **2**:503 Sept. 22) 1923.
Smallpox, J. G. Stulb, New Orleans M. & S. J. **76**:75 (Aug.) 1923.
Smallpox Epidemic in Switzerland. M. Tièche, Klin. Wchnschr. **2**:1220 (June 25) 1923.
Smallpox, Osteomyelitis Variolosa. W. L. Brown and C. P. Brown, J. A. M. A. **81**:1414 (Oct. 27) 1923.
Smallpox Vaccine Made from Rabbits' Brains: Neurovaccine. A. Marie, Bull. Acad. de méd. **90**:123 (July 31) 1923.
Sprue, Fat-Free Diet in Treatment of. T. H. Jamieson, Brit. M. J. **2**:462 (Sept. 15) 1923.
Sprue, Nontropical. H. Schaefer, Klin. Wchnschr. **2**:1121 (June 11) 1923.
Streptococcal Affections of Skin. U. N. Mandal, Indian M. Gaz. **58**:375 (Aug.) 1923.
Striae Distensae. F. B. Hobbs, Lancet **2**:452 (Sept. 1) 1923.

Tar Cancer in Mice. B. Lipschütz, Wien. klin. Wchnschr. **36**:409 (June 7) 1923.
Tar, Changes in Mucosa Under Action of. Buschke and Langer, Klin. Wchnschr. **2**:1367 (July 16) 1923.
Tarred Mice, Experimental Pigmentation of. B. Lipschutz, Wien. klin. Wchnschr. **36**:520 (July 19) 1923.
Teratoma of Lacrimal Gland. L. B. Whitham, Am. J. Ophth. **6**:757 (Sept.) 1923.
Thrush Involving Skin, Lungs and Nails, Fatal Case of. J. T. Christison, Am. J. Dis. Child. **26**:250 (Sept.) 1923.
Tongue, Cancer of, Radium Emanation Ampoules in Treatment of. F. E. Simpson, Illinois M. J. **44**:139 (Aug.) 1923.

Tuberculosis and Leprosy, Analogy Between. Herxheimer, Klin. Wchnschr. **2**:1053 (June 4) 1923.
Tuberculosis, Cutaneous, Treatment of. J. H. Sequeira, Brit. M. J. **2**:503 (Sept. 22) 1923.
Tumors, Camphorated Oil. O. Cignozzi, Riforma med. **39**:675 (July 16) 1923.
Tumor, Granulation, on Roentgen Burn. G. Brandt, Deutsch. Ztschr. f. Chir. **180**:405 (July) 1923.

Ulcer, Leg Treatment of. C. Engelbreth, Ugesk. f. Læger **85**: 411 (June 7) 1923.
Ulcers, Treatment of Atonic. R. Feissly, Schweiz. med. Wchnschr. **53**:681 (July 19) 1923.
Urticaria, Febrile, with Psychic Prodromes. Cruzon and Valence, Bull. et mém. Soc. méd. d. hôp. de Paris **47**:1149 (July 20) 1923.

Warts, Treatment of. K. Laemmle, Deutsch. med. Wchnschr. **49**:885 (July 6) 1923.

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Antivenereal Disease Bill, Discussion at the Readings of. Roeschmann, Deutsch. med. Wchnschr. **49**:956 (July 20) 1923.
Arsenical Erythema, Unilateral. M. Loeper and R. Turpin, Bull. et mém. Soc. méd. d. hôp. de Paris **47**: 1213 (July 27) 1923.
Arsenicals, Intraspinal Insufflation of Air Preliminary to Treatment with. E. v. Thurzó, München. med. Wchnschr. **70**:876 (July 6) 1923.
Arsenobenzols, Anticoagulating Action of, on Blood. T. Anwyl-Davies and J. Mellanby, Lancet **2**:555 (Sept. 15) 1923.
Arsphenamin and Drainage, Arsenic Content of Spinal Fluid After. (Quantitative Studies in Syphilis from Clinical and Biological Point of View. VII). J. A. Fordyce, I. Rosen and C. N. Myers, Am. J. Syphilis **7**:513 (July) 1923.
Arsphenamin by the Rectum. C. Noeggerath and H. S. Reichle, Arch. f. Kinderh. **73**:175 (July 21) 1923.
Arsphenamin Fatality. E. Woenckhaus, München. med. Wchnschr. **70**:673 (May 25) 1923.
Arsphenamin in Swift-Ellis Method of Treatment, Arsenic Content of Spinal Fluid After (Quantitative Studies in Syphilis from Clinical and Biological Point of View. VI). J. A. Fordyce, I. Rosen and C. N. Myers, Am. J. Syphilis **7**:478 (July) 1923.
Arsphenamin Preparation in Relapsing Fever. D. Pletnew, Deutsch. med. Wchnschr. **49**:671 (May 25) 1923.
Arsphenamin, Silver, Arsenic Content of Blood After Intravenous Injections of Silver (Quantitative Studies in Syphilis from Clinical and Biological Point of View. VIII). J. A. Fordyce, I. Rosen and C. N. Myers, Am. J. Syphilis **7**:528 (July) 1923.
Arsphenamin to Prevent Abortion in Syphilis. M. Pinard, Bull. et mém. Soc. méd. d. hôp. de Paris **47**:772 (June 1) 1923.
Arsphenamin Treatment, Intraspinal, Technic for. E. v. Thurzo, München. med. Wchnschr. **70**:876 (July 6) 1923.
Arsphenamin Treatment, Prophylactic, of Syphilis. H. Hecht, Deutsch. med. Wchnschr. **49**:676 (May 25) 1923.
Arsphenamin vs. Neo-Arsphenamin. Report of 1,609 Injections. E. L. Merritt, Mil. Surgeon **53**:259 (Sept.) 1923.

Bismuth in Syphilis, Experimental Study of. H. Ritz, Schweiz. med. Wchnschr. **53**:584 (June 14) 1923.
Bismuth, Salts of, in Syphilis. B. Sherwood-Dunn, New York M. J. **118**:321 (Sept. 5) 1923.
Bismuth Therapy. G. Giemsa and W. Weise, Klin. Wchnschr. **2**:1258 (July 2) 1923.
Bismuth Treatment, Changes in Blood Under. F. Betz, München. med. Wchnschr **70**:913 (July 13) 1923.
Bismuth Treatment, Lesions in Mouth from. Boelsen, Med. Klin. **19**:757 (June 3) 1923.

Bismuth, Treatment of Primary Syphilis with. W. Patzschke, Deutsch. med. Wchnschr. **49**:984 (July 27) 1923.

Chancre in Axilla. D. W. Montgomery and G. D. Culver, Am. J. Syphilis **7**:560 (July) 1923.
Chancre of Lip. M. B. Parounagian and H. Goodman, Am. J. Syphilis **7**:563 (July) 1923.
Chancroid, Influence of, on Syphilis. H. Haxthausen, Hospitalstidende **66**: 489 (July 11) 1923.
Colloidal Benzoin and Colloidal Gold Tests of Cerebrospinal Fluid. H. D. Wright and W. O. Kermack, Edinburgh M. J. **30**:352 (Aug.) 1923.
Colloidal Condition of Blood, Test for. W. Starlinger, Klin. Wchnschr. **2**:1354 (July 16) 1923.
Colloidal Gold and Colloidal Benzoin Tests of Cerebrospinal Fluid. H. D. Wright and W. O. Kermack, Edinburgh M. J. **30**:352 (Aug.) 1923.
Complement Fixation, Influence of Calcium on. S. Rapisardi, Policlinico **30**: 930 (July 16) 1923.

Dermatitis Exfoliativa, Postarsphenamin, Use of Sodium Thiosulphate in Treatment of: Report of Case. I. C. Sutton, Am. J. Syphilis **7**:608 (July) 1923.
Dermatitis, Roentgen-Ray, Dermatitis Artefacta Simulating. G. M. Mackee and G. C. Andrews, Am. J. Roentgenol. **10**:617 (Aug.) 1923.
Diabetes and Syphilis. J. A. R. Smit, Nederlansch Tijdschr. v. Geneesk. **2**:345 (July 28) 1923.

Ear. Differentiation of Neurolabyrinthitis Syphilitica and Labyrinthitis Syphilitica Tarda, G. W. Mackenzie, Ann. Otol., Rhinol. & Laryngol. **32**:847 (Sept.) 1923.
Erythema, Unilateral Arsenical. M. Loeper and R. Turpin, Bull. et mém. Soc. méd. d. hôp. de Paris **47**:1213 (July 27) 1923.
Esophagus, Case of Syphilitic Obstruction of. F. B. McMahon, Surg., Gynec. Obst. **37**:141 (Aug.) 1923.
Eye, Lesions of, Factors Concerned in Production of, in Experimental Syphilis. W. H. Brown and L. Pearce, New York State J. Med. **23**:376 (Sept.) 1923.

Fever, Relapsing, Arsphenamin Preparation in. D. Pletnew, Deutsch. med. Wchnschr. **49**:671 (May 25) 1923.

Gumma of Nasal Septum. E. M. Schwartz, New York M. J. **118**:289 (Sept. 5) 1923.

Kahn Flocculation Test, Comparison of Wassermann Test with, in 1,000 Cases. W. Litterer, J. Tennessee M. A. **16**:132 (Aug.) 1923.
Kidney Function During Treatment of Syphilis. Haassengier, Arch. f. Kinderh. **73**:190 (July 21) 1923.
Kidney, Pathologic Changes in, in Congenital Syphilis. E. de S. Campos, Bull. Johns Hopkins Hosp. **34**:253 (Aug.) 1923.
Kolmer's New Antigen in Routine Wassermann Test, Comparative Value of. K. M. Lynch, Am. J. Syphilis **7**:612 (July) 1923.

Labor, Painlessness of, Early Symptom of Tabes. Haselhorst, Zentralbl. f. Gynäk. **47**:1102 (July 7) 1923.
Liver, Syphilitic Disease of. F. D'Arbela, Riv. Critica di clin. med. **24**:193 (May 5) 1923.

Marriage Question in Venereal Disease. L. Waelsch, Med. Klin. **19**:745 (June 3) 1923.
Maternal Infections. Neonatal Mortality Associated with Syphilis and Other Maternal Infections. A. B. Spalding, J. A. M. A. **81**:1345 (Oct. 20) 1923.
Mercury, Histologic Changes Produced Experimentally in Central Nervous System of Monkeys by. B. Lucke and J. A. Kolmer, Arch. Neurol. & Psychiat. **10**:288 (Sept.) 1923.

Mercury, Treatment of Syphilis with Massive Doses of, Intravenously. R. A. Ireland, New York M. J. **118**:320 (Sept. 5) 1923.
Mortality, Neonatal, Associated with Syphilis and Other Maternal Infections. A. B. Spalding, J. A. M. A. **81**:1345 (Oct. 20) 1923.
Mouth, Lesions in, Bismuth Treatment. Boelsen, Med. Klin. **19**:757 (June 3) 1923.
Mouth, Syphilis and Syphilis-Like Affections of. A. Schalek, Nebraska M. J. **8**:285 (Aug.) 1923.

Neo-Arsphenamin, Arsphenamin vs. Report of 1,609 Injections. E. L. Merritt, Mil. Surgeon **53**:259 (Sept.) 1923.
Neo-Arsphenamin in Swift-Ellis Method of Treatment, Arsenic Content of Blood and Spinal Fluid After (Quantitative Studies in Syphilis from Clinical and Biological Point of View. V). J. A. Fordyce, I. Rosen and C. N. Myers, Am. J. Syphilis **7**:444 (July) 1923.
Neuralgic Type of Early Tabes. S. C. Bose, Calcutta M. J. **17**:121 (March) 1923.
Neurosyphilis. S. C. S. Gupta, Calcutta M. J. **18**:289 (July) 1923.
Neurosyphilis Among Chinese. W. G. Lennox, China M. J. **37**:663 (Aug.) 1923.
Neurosyphilis, Cerebrospinal Fluid and Its Relation to Diagnosis and Treatment of. C. Thompson, Kentucky M. J. **21**:500 (Sept.) 1923.
Neurosyphilis, Familial, Studies in. III. Conjugal Neurosyphilis (Second Communication). J. E. Moore and J. E. Kemp, Arch. Int. Med. **32**:464 (Sept.) 1923.
Neurosyphilis in Aged. A. E. Bennett, Arch. Neurol. & Psychiat. **10**:324 (Sept.) 1923.
Neurosyphilis, Incidence of, in Treated Cases on Island of St. Croix, Virgin Islands of United States. F. L. McDaniel, U. S. Nav. M. Bull. **14**:343 (Sept.) 1923.
Neurosyphilis with Especial Reference to Early Subjective and Objective Manifestations, Study of Symptomatology in. L. M. Gaines, J. M. A. Georgia **12**:363 (Sept.) 1923.

Paralysis, General, Not Due to Injury of Head. H. Engel, Med. Klin. **19**:1054 (July 29) 1923.
Paresis of Diaphragm. J. von Boros, Mitt. a. d. Grenzgeb. d. Med. u. Chir. **36**:670, 1923.
Pregnancy, Treatment of Syphilis in. S. A. Gammeltoft, Ugesk. f. Læger **85**: 247 (April 12) 1923.
Pseudospirochetes, Common Occurrence of, in Blood of Blackwater Fever Cases, and of Normal Human Beings and Animals When Using Technic of Blanchard and Lefrou. J. G. Thomson, J. Trop. Med. **26**:251 (Aug.) 1923.

Sclerosis, Syphilitic, of Vaginal Portion of Uterus. Kehler, Monatsch. f. Geburtsh. u. Gynäk. **63**:83 (June) 1923.
Sodium Thiosulphate, Use of, in Treatment of Postarsphenamin Dermatitis Exfoliativa: Report of Case. I. C. Sutton, Am. J. Syphilis **7**:608 (July) 1923.
Spirochaeta Icterohemorrhagiae, Research on. V. Vanni, Policlinico **30**:330 (July 1) 1923.
Spirochetes. Common Occurrence of Pseudospirochetes in Blood of Blackwater Fever Cases, and of Normal Human Beings and Animals When Using Technic of Blanchard and Lefrou. J. G. Thomson, J. Trop. Med. **26**:251 (Aug.) 1923.
Stomach. Case of Gastric Syphilis. R. C. Moehlig, J. Michigan M. Soc. **22**:393 (Sept.) 1923.
Stomach. Gastric Syphilis: Report of Two Cases Proved Anatomically. W. A. Brams and K. A. Meyer, Surg., Gynec. & Obst. **37**:127 (Aug.) 1923.
Stomach, Syphilis of. L. Neumann, Wien. klin. Wchnschr. **36**:431 (June 14) 1923; J. W. Larimore, Surg., Gynec. & Obst. **37**:133 (Aug.) 1923.
Syphilis. Advisory Dispensaries for Venereal Disease. L. Görl, München. med. Wchnschr. **70**:885 (July 6) 1923.
Syphilis and Diabetes. J. A. R. Smit, Nederlansch Tijdschr. v. Geneesk. **2**:345 (July 28) 1923.
Syphilis and Mineral Waters. Molinéry, Paris méd. **13**:90 (July 28) 1923.

Syphilis and Other Maternal Infections, Neonatal Mortality Associated with A. B. Spalding, J. A. M. A. **81**:1345 (Oct. 20) 1923.
Syphilis and Syphilis-Like Affections of the Mouth. A. Schalek, Nebraska M. J. **8**:285 (Aug.) 1923.
Syphilis and Trauma: Neurologic Aspect. H. R. Viets, Boston M. & S. J. **189**:457 (Oct. 4) 1923.
Syphilis and Tuberculosis, Allergy in. Dujardin and Duprez, Ann. de méd. **14**:161 (Aug.) 1923.
Syphilis and Twin Pregnancy. C. Gallo, Pediatria **31**:599 (June 1) 1923.
Syphilis, Arsphenamin to Prevent Abortion in. M. Pinard, Bull. et mém. Soc. méd. d. hôp. de Paris **47**:772 (June 1) 1923.
Syphilis as We See It Among the Natives of Bechuanaland Today. Study of 1,547 Cases. D. C. McArthur, Am. J. Syphilis **7**:569 (July) 1923.
Syphilis, Case of Gastric. R. C. Moehlig, J. Michigan M. Soc. **22**:393 (Sept.) 1923.
Syphilis. Cerebrospinal Fluid and Its Relation to Diagnosis and Treatment of Neurosyphilis. C. Thompson, Kentucky M. J. **21**:500 (Sept.) 1923.
Syphilis, Coincident, and Pulmonary Tuberculosis. G. Roque, Lyon méd. **132**: 635 (July 25) 1923.
Syphilis, Congenital, Pathologic Changes in Kidney in. E. de S. Campos, Bull. Johns Hopkins Hosp. **34**:253 (Aug.) 1923.
Syphilis, Congenital, Treatment of. J. Bernheim-Karrer, Schweiz. med. Wchnschr. **53**:681 (July 19) 1923.
Syphilis, Diagnosis of, by the Practitioner. Zinsser, Deutsch. med. Wchnschr. **49**:674 (May 25) 1923.
Syphilis. Differentiation of Neurolabyrinthitis Syphilitica and Labyrinthitis Syphilitica Tarda. G. W. Mackenzie, Ann. Otol., Rhinol. & Laryngol. **32**:847 (Sept.) 1923.
Syphilis, Experimental. W. Frei, Klin. Wchnschr. **2**:1263. Reply. Buschke and Kroo, p. 1265 (July 2) 1923.
Syphilis, Experimental, Factors Concerned in Production of Lesions of Eye in. W. H. Brown and L. Pearce, New York State J. Med. **23**:376 (Sept.) 1923.
Syphilis, Experimental Study of Bismuth in. H. Ritz, Schweiz. med. Wchnschr. **53**:584 (June 14) 1923.
Syphilis. Fight Against Venereal Diseases in Stockholm. H. Haustein, Klin. Wchnschr. **2**:1079 (June 4) 1923.
Syphilis from Clinical and Biological Point of View, Quantitative Studies in. V. Arsenic Content of Blood and Spinal Fluid After Neo-Arsphenamin in Swift-Ellis Method of Treatment. J. A. Fordyce, I. Rosen and C. N. Myers, Am. J. Syphilis **7**: 444 (July) 1923; VI. Arsenic Content of Spinal Fluid After Arsphenamin in Swift-Ellis Method of Treatment. Ibid. p. 478; VII. Arsenic Content of Spinal Fluid After Arsphenamin and Drainage. Ibid. p. 513; VIII. Arsenic Content of Blood After Intravenous Injections of Silver Arsphenamin. Ibid. p. 528.
Syphilis, Gastric: Report of Two Cases Proved Anatomically. W. A. Brams and K. A. Meyer, Surg., Gynec. & Obst. **37**: 127 (Aug.) 1923.
Syphilis in Pregnancy, Treatment of. S. A. Gammeltoft, Ugesk. f. Læger **85**:247 (April 12) 1923.
Syphilis, Influence of Chancroid on. H. Haxthausen, Hospitalstidende **66**:489 (July 11) 1923.
Syphilis, Inherited, Case of, in Third Generation. Arch. f. Kinderh. **73**:140 (July 21) 1923.
Syphilis, Inherited, Multiple Anomalies from. L. Agote, Arch. de méd. d. enf. **26**:545 (Sept.) 1923.
Syphilis. Johannesburg Municipal Venereal Clinic. H. Gluckman, M. J. South Africa **19**:1 (Aug.) 1923.
Syphilis, Kidney Function During Treatment of. Haassengier, Arch. f. Kinderh. **73**:190 (July 21) 1923.
Syphilitics, Odor of. G. Müller, Deutsch. med. Wchnschr. **49**:987 (July 27) 1923.
Syphilis of Rabbits, Serodiagnosis of. E. Illert, Klin. Wchnschr. **2**:1168 (June 18) 1923.
Syphilis of Stomach. L. Neumann, Wien. klin. Wchnschr. **36**:431 (June 14) 1923; J. W. Larimore, Gynec. & Obst. **37**:133 (Aug.) 1923.
Syphilis, Practical Observations on. VI. H. H. Hazen, Am. J. Syphilis **7**:417 (July) 1923.

Syphilis, Primary, Treatment of, with Bismuth. W. Patzschke, Deutsch. med. Wchnschr. **49**:984 (July 27) 1923.
Syphilis, Prophylactic Arsphenamin Treatment of. H. Hecht, Deutsch. med. Wchnschr. **49**:676 (May 25) 1923.
Syphilis, Rapid Serologic Test for. H. Hecht, Deutsch. med. Wchnschr. **49**:715 (June 1) 1923.
Syphilis, Recent Advances in Diagnosis and Treatment of. W. T. Vaughan, Virginia M. Monthly **50**:372 (Sept.) 1923.
Syphilis, Results in Treatment of. F. L. Taylor, New York M. J. **118**:281 (Sept. 5) 1923.
Syphilis. Roentgen-Ray Study of Nonsyphilitic Periosteal Bone Lesions. R. G. Giles, Am. J. Roentgenol. **10**:593 (Aug.) 1923.
Syphilis, Salts of Bismuth in. B. Sherwood-Dunn, New York M. J. **118**:321 (Sept. 5) 1923.
Syphilis, Treatment of. J. A. Fordyce, J. Indiana M. A. **16**:226 (July 15) 1923.
Syphilis, Treatment of, with Massive Doses of Mercury Intravenously. R. A. Ireland, New York M. J. **118**:320 (Sept. 5) 1923.
Syphilis, Unsuspected. L. Thompson, New York M. J. **118**:277 (Sept. 5) 1923.
Syphilis, Wassermann Test in Prognosis of. E. H. Thaysen, Ugesk. f. Læger **85**:247 (April 12) 1923.
Syphilis with Negative Wassermann Reaction. C. M. Smith, Boston M. & S. J. **189**:286 (Aug. 23) 1923.
Syphilitic Disease of Liver. F. D'Arbela, Riv. Critica di clin. med. **24**:193 (May 5) 1923.
Syphilitic Infection, Professional, Prophylaxis of. J. Fabry, Med. Klinik. **19**: 1047 (July 29) 1923.
Syphilitic, Obstruction of Esophagus, Case of. McMahon, Surg., Gynec. & Obst. **37**:141 (Aug.) 1923.
Syphilitic Sclerosis of Vaginal Portion of Uterus. Kehrer, Monatschr. f. Geburtsh. u. Gynäk. **63**:83 (June) 1923.

Tabes, Early, Neuralgic Type. S. C. Bose, Calcutta M. J. **17**: 121 (March) 1923.
Tabes Involving Only Cranial Nerves, Perforating Ulcer in Mouth in, Case of. Desforges and Baruk, Encéphale **18**:386 (June) 1923.
Tabes, Painlessness of Labor, Early Symptom of. Haselhorst, Zentralbl. f. Gynäk. **47**:1102 (July 7) 1923.
Tuberculosis, Pulmonary and Coincident Syphilis. G. Roque, Lyon méd. **132**: 635 (July 25) 1923.

Ulcer, Perforating, in Mouth in Case of Tabes Involving Only Cranial Nerves. Desforges and Baruk, Encéphale **18**:386 (June) 1923.
Uterus, Syphilitic Sclerosis of Vaginal Portion of. Kehrer, Monatschr. f. Geburtsh. u. Gynäk. **63**:83 (June) 1923.

Venereal Clinic, Johannesburg Municipal. H. Gluckman, M. J. South Africa **19**:1 (Aug.) 1923.
Venereal Disease, Advantages of Advice Stations for. L. Görl, München. med. Wchnschr. **70**:885 (July 6) 1923.
Venereal Disease, Advisory Dispensaries for. L. Görl, München. med. Wchnschr. **70**:885 (July 6) 1923.
Venereal Disease Control, Present Status of. C. C. Pierce, Illinois M. J. **44**:124 (Aug.) 1923.
Venereal Diseases, Fight Against, in Stockholm. H. Haustein, Klin. Wchnschr. **2**:1079 (June 4) 1923.
Venereal Disease, Incidence of, in Scotland. T. F. Dewar, Edinburgh M. J. **30**:313 (Aug.) 1923.
Venereal Disease, Marriage Question in. L. Waelsch, Med. Klin. **19**:745 June 3) 1923.
Venereal Diseases of State and Provincial Health Authorities, Report of Committee on. M. J. White, Am. J. Pub. Health **13**:723 (Sept.) 1923.
Venereal Disease, Prevention of: Policy of Immediate Self-Disinfection: Its Progress Towards Victory. H. W. Bayly, J. State Med. **31**:379 (Aug.) 1923.
Venereal Disease Treatment Center, Work of. T. P. C. Kirkpatrick, Irish J. M. Sc. **19**:145 (June) 1923.

Wassermann Reaction. K. Monferratos-Floros and G. Sato, Klin. Wchnschr. **2**:1072 (June 4) 1923.

Wassermann Reaction, Bordet's Extract in. H. D. Wright, J. Path. & Bacteriol. **26**:418 (July) 1923.

Wassermann Reactions, Clinical Aspects of. J. H. Pollock, Irish J. M. Sc. **19**:199 (Aug.) 1923.

Wassermann Reaction, Expression of Results of, in Units. J. McIntosh and A. N. Kingsbury, Brit. J. Exper. Path. **4**:224 (Aug.) 1923.

Wassermann Reaction, Negative, Syphilis with. C. M. Smith, Boston M. & S. J. **189**:286 (Aug. 23) 1923.

Wassermann Reaction, Titration of Complement in. F. C. Lewis, J. Path. & Bacteriol. **26**:418 (July) 1923.

Wassermann Reaction, Variations in. J. R. Mörch and T. E. H. Thaysen, Acta med. Scandinav. **58**:111 (May 22) 1923.

Wassermann Test, Comparison of, With Kahn Flocculation Test in 1,000 Cases. W. Litterer, J. Tennessee M. A. **16**:132 (Aug.) 1923.

Wassermann Test in Prognosis of Syphilis. E. H. Thaysen, Ugesk. f. Læger **85**:247 (April 12) 1923.

Wassermann Test, Routine, Comparative Value of Kolmer's New Antigen in. K. M. Lynch, Am. J. Syphilis **7**:612 (July) 1923.

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